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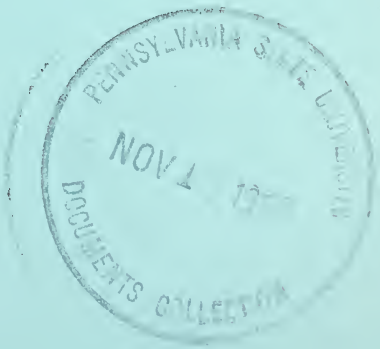
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Environmental Science Services Administration

CATALOG OF U.S. GOVERNMENT METEOROLOGICAL RESEARCH AND TEST FACILITIES

FEDERAL COORDINATOR FOR
METEOROLOGICAL SERVICES
AND SUPPORTING RESEARCH



WASHINGTON, D.C. FCM 69-4 SEPTEMBER 1969

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ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
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INTRODUCTION

This catalog was first published in 1965. The descriptions of facilities, provided by the Government agencies for the first catalog, have been updated and revised by each agency, as necessary, for this 1969 issue. This work was accomplished under the guidance of the Interdepartmental Committee for Applied Meteorological Research (ICAMR).

The facility descriptions have been edited for publication by the Federal Coordinator for Meteorological Services and Supporting Research (FCM), but the revision and updating of the descriptions have been accomplished through the efforts of the agency Members of the ICAMR.

It is anticipated that this catalog will be revised and reissued every 3 or 4 years. Revisions or additions should be forwarded to the FCM.

DEPARTMENT OF THE AIR FORCE

Name of Facility:

Meteorology Laboratory

Location:

L. G. Hanscom Field, Bedford, Mass.

Agency (Operator):

Air Force Cambridge Research Laboratories (AFCRL)

Facilities Available:

This is a research facility encompassing office and laboratory space, with associated equipment for conducting research on all aspects of meteorology including cloud physics, weather modification, micrometeorology, atmospheric dynamics, high level circulations, ozone research, and satellite meteorology. Special equipment utilized in these studies includes:

a. A mobile micrometeorological observing system.
b. A radar meteor trail wind-measuring set.
c. An Automatic Picture Transmission (APT) meteorological satellite readout station.

Capacity for Handling Work for Other Federal Agencies:

No capacity at present.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AFCRL (CRT)
L. G. Hanscom Field, Bedford, Mass. 01730

Figure 1. AFCRL Research Library

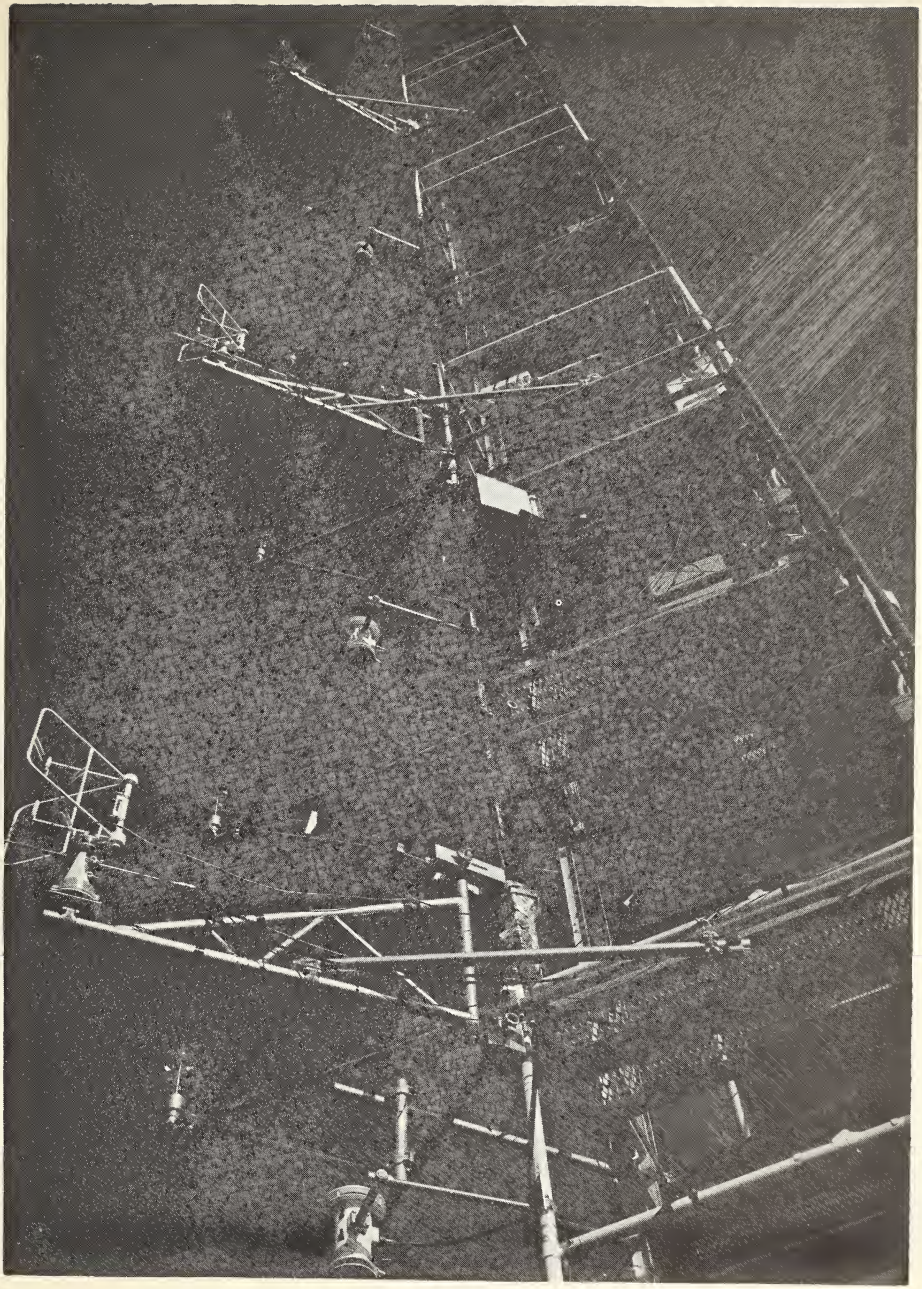

Figure 2. AFCRL Micrometeorological Tower at Liberal, Kansas

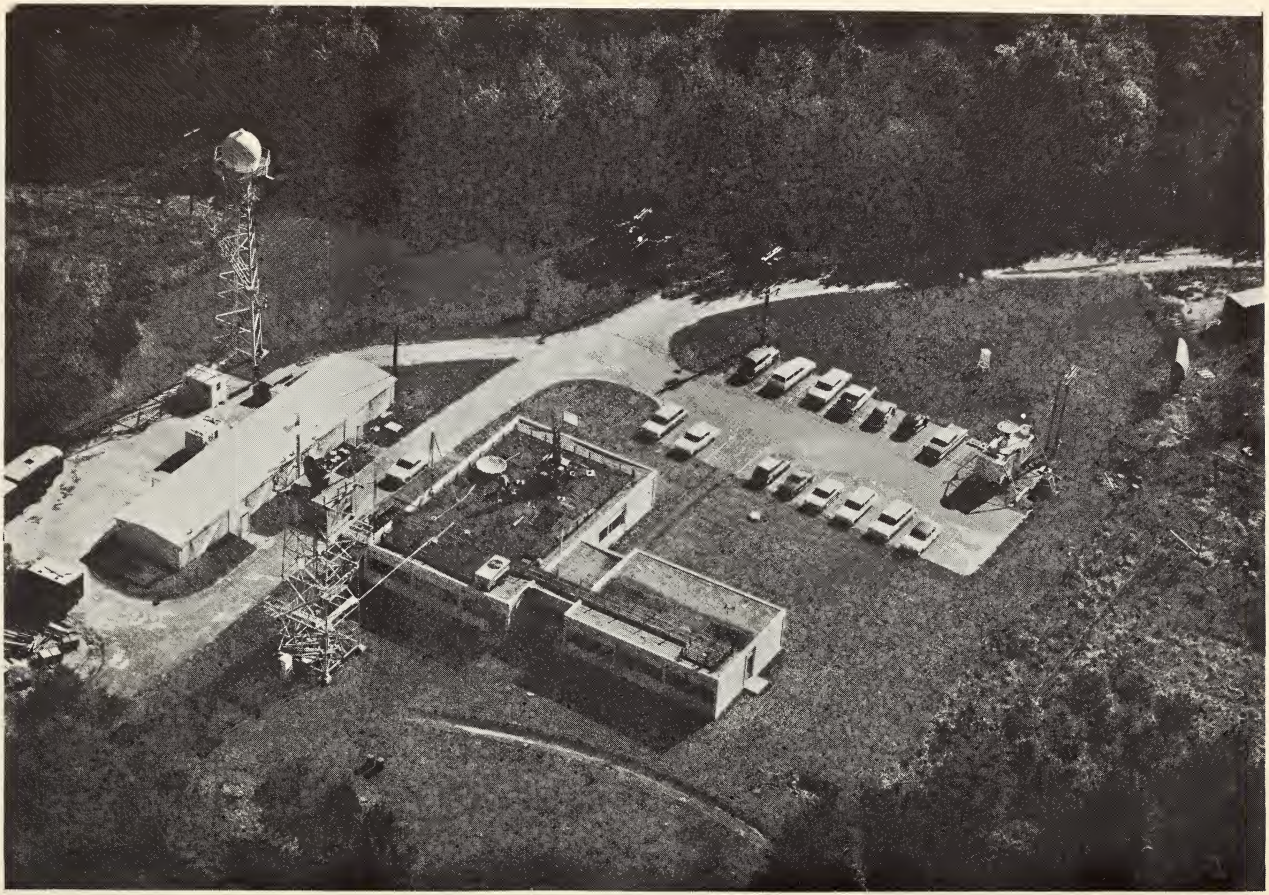

Figure 3. Aerial View of the AFCRL Meteorological Radar Field Station

Name of Facility:

Meteorological Radar Field Station

Location:

Maynard, Mass.

Agency (Operator):

Air Force Cambridge Research Laboratories (AFCRL)

Facilities Available:

This is an off-base facility of the Meteorology Laboratory of AFCRL for research and observation of meteorological phenomena using radar, sferics, and radiometric techniques, and for the development of such radar equipment and analysis techniques needed for this purpose. (See fig.3.) Equipment which is currently available, or soon to be made available includes the following:

a. Radars:

APQ-70, .85 and 1.8 cm
CPS-9, 3 cm
MPS-4, 4.7 cm
FPS-6, 10 cm
Porcupine II Doppler radar, 5.5 cm
Vistar Doppler radar, 3.2 cm.

b. Auxiliary Devices:

CAPPI - Constant Altitude Plan Position Indicator
STRADAP - Severe Storm Radar Data Processing and Display
PRIME - PRecision Integrator for Meteorological Echoes.

Capacity for Handling Work for Other Federal Agencies:

No capacity at present.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AFCRL (CRT)
L. G. Hanscom Field, Bedford, Mass. 01730

Name of Facility:

Meteorological Equipment Development Facility

Location:

Waltham, Mass.

Agency (Operator):

Air Force Cambridge Research Laboratories (AFCRL)

Facilities Available:

This facility constitutes five operating branches of the Aerospace Instrumentation Laboratory of AFCRL and consists of office, laboratory space, and associated equipment, including electronic work benches necessary for design, engineering, and management of meteorological equipment development programs.

Special equipment within this facility includes an AN/TPQ-11 radar cloud detecting set and a precisely controlled humidity test chamber.

Capacity for Handling Work for Other Federal Agencies:

Some capability is available for incorporating requirements of other agencies in contractual efforts, but is very limited with respect to actual testing.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AFCRL (CRT)
L. G. Hanscom Field, Bedford, Mass. 01730

Name of Facility:

Meteorological Equipment Development Test Site

Location:

L. G. Hanscom Field, Bedford, Mass.

Agency (Operator):

Air Force Cambridge Research Laboratories (AFCRL)

Facilities Available:

As part of the Meteorological Equipment Development Facility of AFCRL, this site provides a capability for development and prototype testing of meteorological observing equipment. The site includes:

a. All weather meteorological balloon inflation and launching.

b. Rawin tracking with AN/GMD-1, GMD-2, and GMD-4.

c. Transmissometer range.

d. Ceilometer test facility.

e. Radio frequency screened room.

f. Altitude simulation chamber.

g. Temperature control chamber.

h. High-speed page printer.

i. Wind equipment calibration and test facility.

j. Dew point transfer standard.

Capacity for Handling Work for Other Federal Agencies:

The site is currently in support of the U. S. Army, Aeronautical Systems Division, Air Weather Service, and Mitre Corporation; limited additional capacity is available at present.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AFCRL (CRT)
L. G. Hanscom Field,
Bedford, Mass. 01730

Name of Facility:

Optical Visibility Test Range

Location:

U. S. Army Natick Laboratories Annex, Sudbury, Mass.

Agency (Operator):

Air Force Cambridge Research Laboratories (AFCRL)

Facilities Available:

a. Three standard AN/GMQ-10B transmissometers (500 ft baselines) are installed on a 3,000-ft test range, one transmissometer at each end of the range and one at the center. Indicators and recorders are centrally located.

b. A German transmissometer (Freungel) is installed to measure transmission over the full 3,000-ft range.

c. An experimental laser system (in-house design) is used to measure transmission over any range from 500 to 3,000 ft.

Items b. and c. are used for comparative measurements with the three standard AN/GMQ-10B transmissometers.

Capacity for Handling Work for Other Federal Agencies:

Some capability to assist other Federal agencies to evaluate any other visibility sensor is available.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AFCRL (CRT)
L. G. Hanscom Field, Bedford, Mass. 01730

Name of Facility:

System 433L Test Facility

Location:

L. G. Hanscom Field, Bedford, Mass.

Agency (Operator):

U. S. Air Force 433L SPO (operated by United Aircraft Corp.)

Facilities Available:

The System 433L Test Facility is composed of one office and three rooms for electronic equipment testing. The available floor space is approximately 2,800 sq ft. The power available is 115/230 single-phase and 230 three-phase. The floor is concrete and is capable of supporting 300 psf. One laboratory-type room, 20- by 30-ft, has bench facilities with appropriate test receptacles. Test equipment available includes such items as oscilloscopes, voltmeters, frequency meters, electronic counters, audio oscillators, radio frequency oscillators, and power-measuring equipment.

Capacity for Handling Work for Other Federal Agencies:

Limited capability is available for handling work for other Federal agencies; however, because the facility is operated for contract work, it is not recommended that this capability be used.

Current Service Charge:

No charge has been established.

Channels for Other Agencies to Use in Requesting Support by the Facility:

System Program Director, 433L SPO
424 Trapelo Rd.
Waltham, Mass. 02154

Name of Facility:

Aerospace Environmental Facility

Location:

Arnold Air Force Station, Tennessee

Agency (Operator):

Arnold Engineering Development Center (AEDC), AFSC

Facilities Available:

The facility is equipped as follows:

a. Aerospace Environmental Chamber, Mark I.
A 42-ft deep by 82-ft high space chamber; pressure, temperature, moisture, gas composition, and simulated solar radiation can be created and controlled precisely.

b. Aerospace Research Chamber, 12V.
A 10-ft deep by 12-ft high chamber with capabilities are similar to the Mark I, but on a smaller scale.

c. Aerospace Research Chamber, 8V.
An 8-ft deep by 14-ft long chamber similar to 12V, but without solar simulation; used as low density supersonic wind tunnel.

d. Aerospace Research Chamber, 7V.
A 7-ft deep by 12-ft long chamber similar to 8V; not used as low density supersonic wind tunnel.

e. A 210-ft instrumented meteorological tower.
Used to measure temperature, vertical and horizontal wind components, and toxic product diffusion.

Capacity for Handling Work for Other Federal Agencies:

Facility is fully staffed to test for Air Force and other government agencies. Using agencies may assign test team monitor if desired.

Current Service Charge:

All customers pay for costs incurred on an occupancy-rate basis, varying from test call to test call.

Channels for Other Agencies to Use in Requesting Support by the Facility:

AEDC (AET)
Arnold AFS, Tenn. 37389

Name of Facility:

Armament Development and Test Center (ADTC)

Location:

Eglin Air Force Base, Fla.

Agency (Operator):

Deputy for Technical Support (PGV)

Facilities Available:

This is a heavily instrumented testing facility which can track meteorological rockets, such as the ARCAS, to obtain time-space-position data. Precision radar (AN/FPS-16) tracking of ejectable balloons (metalized) can be accomplished to determine high altitude winds, beginning at approximately 70-75 km and going down to 30 km. A data reduction facility, using an IBM-7090 computer and associated equipment, is available. Ground rocket handling facilities are also available. Other solid propellant rocket types, weighing from 50 to 35,000 lb and with lengths from 2 to 70 ft, can be launched with meteorological payloads. Specialized support, such as telemetry, can be obtained. Meteorological observational equipment (Det. 10, 6th Weather Wing) is available.

Capacity for Handling Work for Other Federal Agencies:

Capacity is available for use in support of Air Force projects. Department of Defense agencies will be supported upon authorization from Headquarters, AFSC (authorization is subject to ADTC capability to provide support for time period requested).

Current Service Charge:

Charge is subject to negotiation based upon incurred costs.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Armament Development and Test Center
Eglin Air Force Base, Fla. 32542

Name of Facility:

Climatic Laboratory

Location:

Eglin Air Force Base, Fla.

Agency (Operator):

Deputy for Technical Support (PGV)

Facilities Available:

The Climatic Laboratory facility consists of an insulated hangar, having 50,000 sq ft of floor space and a volume of 2,900,000 cu ft which can be temperature controlled from -65° to +165F. In addition, snow, sand, rain, and other environmental tests can be accomplished. The particles are forcibly distributed by simulated wind velocities (blower type).

A series of small test cells are also operated in conjunction with the hangar facility. Representative units include:

a. Aircraft engine test facility.

b. Physiological strato chamber.

c. All weather room.

d. Salt spray room.

e. Physical test facilities (vibration, shock, etc.).

Capacity for Handling Work for Other Federal Agencies:

This technical facility is available for environmental testing support of Department of Defense agencies only.

Current Service Charge:

Charges vary (depending on the extent of supporting services, logistics, power, and manpower requirements) from $25 to $800 per day for the small test chambers. The main chamber charge is $.069 per sq ft per day.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Air Proving Ground Center, Attn: PGL
Eglin Air Force Base, Fla. 32542

DEPARTMENT OF THE ARMY

Name of Facility:

Atmospheric Sciences Laboratory

Location:

Fort Monmouth, N. J.

Agency (Operator):

Department of the Army

Facilities Available:

The facility contains the following: solar radiation measuring equipment to operate in separate bands, equipment for testing response of humidity elements, weather radar, laboratory facilities for research and development in meteorology and meteorological instrumentation, a pressure sensor calibration facility, and a low-level meteorological simulator.

Capacity for Handling Work for Other Federal Agencies:

Opportunities for small projects on a joint basis are available.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

Meteorological Support Activity, Atmospheric Sciences Laboratory

Location:

Fort Huachuca, Ariz.

Agency (Operator):

Department of the Army

Facilities Available:

This facility contains equipment suitable for normal and special meteorological observations, a whirling arm for testing wind instruments, and test and calibration equipment.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for additional activities on a joint or reimbursable basis.

Current Service Charge:

Not applicable.

Channel for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

U. S. Army Arctic Test Center

Location:

Fort Greely, Alaska

Agency (Operator):

Department of the Army

Facilities Available:

Meteorological instrumentation for surface and upper air observations and for radiation observations suitable in low temperature environments is available.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for additional activities on a joint or reimbursable basis.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

U. S. Army Tropic Test Center

Location:

Panama C. Z.

Agency (Operator):

Department of the Army

Facilities Available:

Meteorological instrumentation for surface and upper air observations, radiation observations, and instrumented towers is available.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for additional activities on a joint or reimbursable basis.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

White Sands Missile Range (WSMR)

Location:

White Sands, N. Mex.

Agency (Operator):

Department of the Army

Facilities Available:

Three 500-ft towers and one 100-ft tower are instrumented to measure wind speed and direction, temperature, and humidity at multiple levels. Additionally, the following facilities are available: a 20-m absorption cell, a low-speed calibration facility, a meteorological rocket-launching facility, automatic pibal trackers, and a sound-ranging acquisition system.

Capacity for Handling Work for Other Federal Agencies:

As a National Range, WSMR can provide service to other agencies in accordance with established National Range policy.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

Kwajalein Test Site

Location:

Kwajalein Atoll, Marshall Islands

Agency (Operator):

Department of the Army

Facilities Available:

The Kwajalein Test Site for Nike X includes meteorological observing capability for support purposes.

Capacity for Handling Work for Other Federal Agencies:

Primary mission is the test and evaluation of Nike X. Limited programs can be undertaken under the plans and funding policies established for National Ranges.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief of Research and Development, Attn: CRDES
Headquarters, Department of the Army
Washington, D. C. 20310

Name of Facility:

U. S. Army Wind Tunnel

Location:

Colorado State University, Fort Collins, Colo.

Agency (Operator):

Department of the Army

Facilities Available:

A thermally controlled, low-wind speed Wind Tunnel with 90-ft test section is available; cross section of test area is 8 ft. On lower boundary, fresh or recirculated air facilities are provided. Facility is suitable for micrometeorological simulation studies.

Capacity for Handling Work for Other Federal Agencies:

Facility is used full time by Army contract and Themis contract.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Not applicable.

ATOMIC ENERGY COMMISSION

Name of Facility:

Diffusion Grid

Location:

Pacific Northwest Laboratory, Richland, Wash.

Agency (Operator):

U. S. Atomic Energy Commission (contracted to Battelle Memorial Institute)

Facilities Available:

Two field Diffusion Grids have been surveyed. The first Diffusion Grid consists of six concentric arcs about an unobstructed ground level source point. The innermost arc is 0.2 km from the source point, and the outermost arc is 25.6 km from that same point. More than 550 field sampling locations are marked on this grid -- 320 of which are currently equipped with vacuum sources. Additionally, this grid includes 20 towers with heights up to 200 ft. Towers are equipped with vacuum sources at 345 positions.

The second field Diffusion Grid is centered on a sturdy 400-ft tower, permitting aloft release of tracers. There are 15 arcs concentric about this tower. The innermost arc is 0.1 km from the tower, and the outermost arc is 5 km away. There are currently 708 surveyed field positions on these arcs. All positions are equipped with vacuum sources.

Meteorological variables are measured on the 400-ft tower and on a 80-ft mast. Twelve meteorological stations are spaced over a 600-sq mi area. Measurements may be augmented by an available research aircraft.

Capacity for Handling Work of Other Federal Agencies:

Users are welcomed. Any additional equipment would have to be provided by the user. Necessary manpower to operate the grid can be obtained from the local laboratories. Trained personnel are needed to operate the grid efficiently.

Current Service Charge:

No charge.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Manager,
Atmospheric Resources, Pacific Northwest Laboratory
Richland, Wash. 99352
Telephone: 509-942-1111, Ext. 2-7837

Name of Facility:

Wind Tunnel

Location:

Pacific Northwest Laboratory, Richland, Wash.

Agency (Operator):

U. S. Atomic Energy Commission (contracted to Battelle Memorial Institute)

Facilities Available:

A once-through Wind Tunnel of 2- by 2-ft square cross section is available. Working section is 30 ft long. Air is filtered at inlet and outlet with high efficiency filters. Inlet section is a transition designed to minimize turbulence. A provision is made to insert screens for changing flow distribution across the wind tunnel. Access to working section is through several lucite windows on the side walls. Tunnel is used for deposition measurements and impaction studies. (See fig. 4.)

Capacity for Handling Work of Other Federal Agencies:

The facility will be in use for the next several months. There may be periods when short duration tests could be conducted by other agencies while the Laboratory work is in progress. User would have to furnish his own manpower and equipment.

Current Service Charge:

Charge would be negotiated, if any.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Manager,
Atmospheric Resources, Pacific Northwest Laboratory
Richland, Wash. 99352
Telephone: 509-942-1111, Ext. 2-7837

Figure 4. Wind Tunnel

Photograph by Battelle Memorial Institute

Name of Facility:

BREN Tower

Location:

Nuclear Rocket Development Station, Nevada Test Site

Agency (Operator):

U. S. Atomic Energy Commission (maintained by ESSA Air Resources Laboratory - Las Vegas)

Facilities Available:

A 1527-ft guyed triangular BREN Tower with personnel elevator is available. Present temperature equipment consists of a Hewlett-Packard Dymec Model DY 7132 quartz crystal temperature system having eight sensors mounted in aspirated shields from 84 to 1,509 ft altitude. Levels are scanned cyclically at a rate and reading time dependent on the temperature resolution selected (.01°, .001°, .0001°C). Presentation is by nixie light, and printout is on adding machine paper. Present wind equipment consists of eight levels of Beckman and Whitley (B&W) Series 50 anemometers with continuous analog recording of each level. In addition, three Meteorological Research, Inc. (MRI) vectorvanes are available for specific turbulence studies, located at the 145-, 565-, and 1505-ft levels.

A 100-ft satellite tower will be erected within the next 6 months, and will contain at least two additional wind levels, two temperature levels, and one vectorvane.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed on noninterference basis. Any additional equipment is furnished by the user agency.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager,
Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

Name of Facility:

Permanent Surface Observation Facilities

Location:

Nevada Test Site (NTS)

Agency (Operator):

U. S. Atomic Energy Commission (operated by ESSA's Air Resources Laboratory - Las Vegas)

Facilities Available:

Yucca Flats Weather Station and Jackass Flats Weather Station are equipped with all of the standard meteorological instrumentation for first-order stations. This instrumentation includes: mercurial and aneroid barometers; ceiling light; instrument shelter with maximum and minimum thermometers, aspired thermometers, and hygrothermograph; analog wind recorder; and enclosed pilot balloon stand. Yucca Flats Weather Station is manned 24 hours a day and takes hourly airways type and surface observations, 0000Z and 1200Z rawinsondes, and 0600Z and 1800Z rawins. (See fig.5.)

A Mesoscale Observation Network is available at NTS. The instruments are emplaced between 3 and 1,500 ft above the surface, and are located over an area of more than 1,000 sq mi of typical desert plateau terrain. Instruments include: 43 wind-measuring stations, 10 hygrothermographs, 20 raingages, three microbarographs, two solar radiation instruments (one total and one net radiometer), one evaporimeter, and the BREN tower instrumentation.

An evaporation pan has been modified to record hourly evaporation rates; the pan is also equipped with wind and water temperature sensors.

Capacity for Handling Work for Other Federal Agencies:

Site may be used on noninterference basis. Any additional equipment and manpower would have to be supplied by the user.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager,
Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

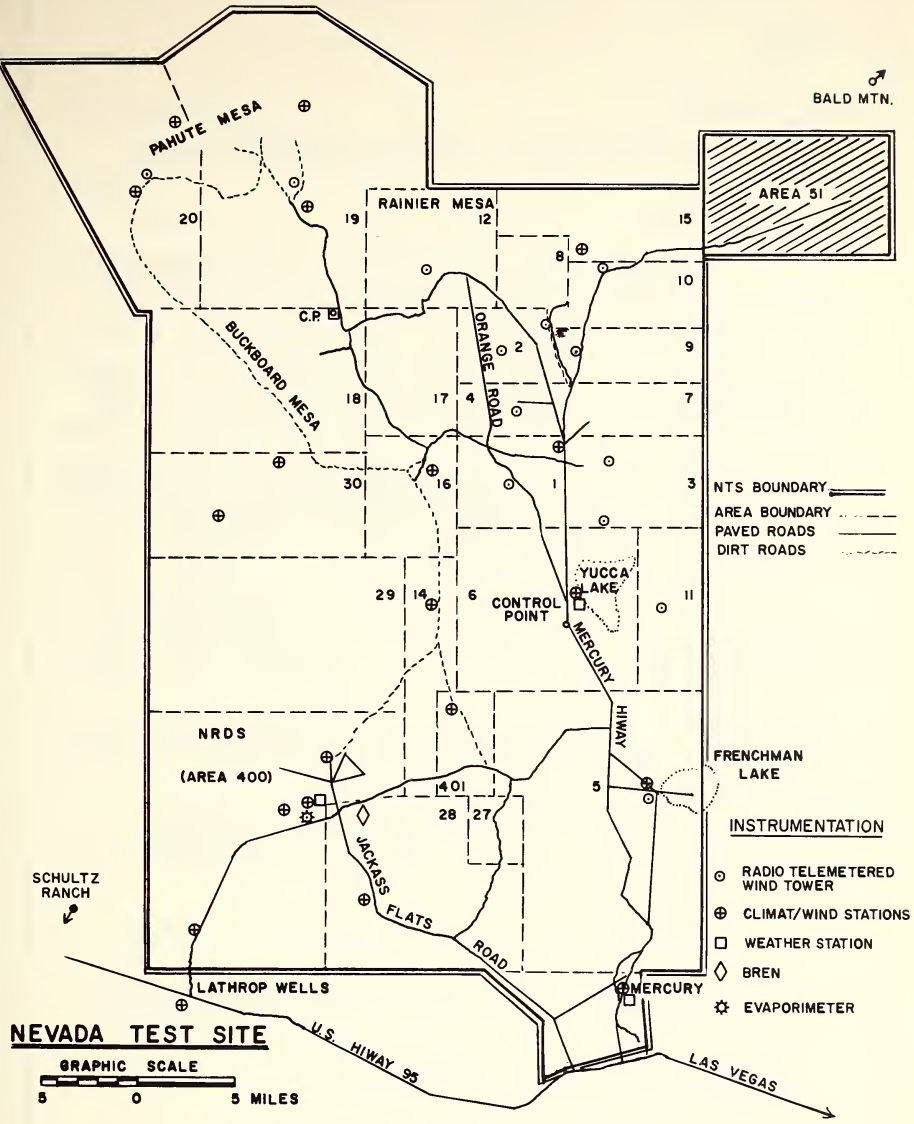

Figure 5. Nevada Test Site

Name of Facility:

Portable Upper Air Sounding Facilities

Location:

Nevada Test Site

Agency (Operator):

U. S. Atomic Energy Commission operated by ESSA's Air Resources Laboratory - Las Vegas (ARL-LV)

Facilities Available:

Upper air sounding equipment is mounted in vans with trailer-mounted antennas, and has accompanying inflation trailers. The rawinsonde unit is mounted in a modified van, and has accompanying trailers. Van contains TMQ-5 recorder, control-recorder, baseline check box, ESSA Weather Bureau-type wind graphing and plotting boards, and lighted work areas. The GMD-1A antenna is mounted on an accompanying four-wheel trailer. Inflation trailer is capable of handling balloons to 600 gm. and has a storage area for expendables and helium as well as a mounted 15 kw generator to supply all power requirements of the unit. Two complete mobile units are available.

Truck-mounted camper units have been modified to provide all facilities necessary for pilot balloon soundings. Interior inflation area can handle balloons to 100 gm. Interior storage is provided for three standard cylinders of helium, all expendables and a theodolite. Seven units are available, two with four-wheel drive capability.

The M-33 Radar units are modified for meteorological rawin soundings using 30- to 100-gm balloons and corner reflectors, or 72-in. tetroons and Suchy corner reflectors, or transponders (403 MHz). Radar units require 400-cycle power and have accompanying suitable generators. Six M-33 radar units are available.

Two aerodynamic balloons with a capacity of 200 cu ft of helium are available with winch systems and nylon cable to allow flight to 1,500 feet.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. It is preferred that units be operated by technicians of ARL-LV. Availability is subject to scheduled operations at the Nevada Test Site.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager, Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

Name of Facility:

Portable Surface Facilities

Location:

Nevada Test Site

Agency (Operator):

U. S. Atomic Energy Commission (operated by the ESSA's Air Resources Laboratory - Las Vegas)

Facilities Available:

Smoke generators of the military type, PJ-102 (Pulse Jet fog generator), used to produce smoke screens, are available. Two dual combustion chambers and one single combustion chamber. The two larger units are trailer-mounted. Smoke-producing fuel (fog oil type) has a consumption rate of 90 gph on the larger units (Department of the Navy specification 14F3). Gasoline is used to start and run the pulse-jet engine with a use rate of 6 gph.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. Fuel and fog oil would have to be provided by user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager,
Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

Name of Facility:

Permanent Upper Air Sounding Facilities

Location:

Yucca Flats Weather Station and Jackass Flats Weather Station,
Nevada Test Site

Agency (Operator):

U. S. Atomic Energy Commission (operated and maintained by ESSA's Air Resources Laboratory - Las Vegas)

Facilities Available:

Standard 1,680-mc GMD-1A upper air sounding equipment, with J-105 recorder in ground unit, is available. One unit is located at weather station on edge of Yucca Flats Lake (dry), elevation 3,924 ft, msl. Antenna is on 30-ft platform enclosed by radome; peripheral ground equipment and balloon inflation facilities are housed in weather station. Second unit is located at weather station near center of Jackass Flats, elevation 3,610 ft, msl. Antenna is on concrete pad at ground level enclosed by radome; peripheral ground equipment and balloon inflation facilities are housed in weather station. Balloon inflation capability for either unit to 1,200-gm balloons and 72-in. tetroons. Subject stations are approximately 15 mi apart at the Nevada Test Site. Both are situated in a typical desert valley with mountain ranges rising to over 6,000 ft msl on the periphery of each.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomes on a noninterference basis with Air Resources Laboratory-Las Vegas projects and schedules.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager,
Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

Name of Facility:

Electronics Shop and Calibration Facilities

Location:

Nevada Test Site, Mercury, Nev.

Agency (Operator):

U. S. Atomic Energy Commission (operated by ESSA's Air Resources Laboratory - Las Vegas)

Facilities Available:

Electronic Shop Facilities include bench space, hand tools, electric drills, and other common shop items.

Electronic test equipment includes oscilloscopes, multimeters, VTVM, tube testers, decade boxes, bridges, signal generators, frequency measurements, counters, and similar items. A sonic cleaner and a Watch Master timer are available. Electronic tubes, transistors, resistors, capacitors, and similar items are available to other users on a replacement basis.

The Meteorology Research, Inc. wind tunnel is approximately 24 ft long. Instrumentation-measuring section is approximately 24 by 24 in. Velocity is measured by pitot tube (adjustable for height and positioning). Velocity can be varied from approximately 100 to 3300 fpm. Mountings are available for Beckman and Whitley (B&W) Series 50 sensors, B&W Model 1564 and 1565 sensors, and Climet sensors. Other makes and models would require user to provide necessary mounting adaptors.

The Temperature Calibration unit has a test chamber of approximately 20 by 20 by 20 in. Electrical connections may be brought outside of unit through openings in chamber. Temperature range of chamber is from -100° to +400°F. In conjunction with the temperature chamber, a separate humidity chamber of about the same size is also available. User would have to provide necessary solutions to obtain desired humidity conditions.

Capacity for Handling Work for Other Federal Agencies:

Users are welcome. Any additional equipment would be provided by user.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Air Resources Laboratory - Las Vegas, RF324
Environmental Science Services Administration
Las Vegas, Nev. 89114

(or)

Manager,
Nevada Operations Office
U. S. Atomic Energy Commission
Las Vegas, Nev. 89114

Name of Facility:

NRTS Mesonetwork

Location:

National Reactor Testing Station (NRTS), Idaho Falls, Idaho

Agency (Operator):

U. S. Atomic Energy Commission (operated by ESSA's Air Resources Laboratories)

Facilities Available:

The Mesonetwork covers the National Reactor Test Site and most of the upper Snake River Plain of SE Idaho. There are four general locations on the test site, which have five towers to collect measurements of wind and temperature at several levels (150-250 ft) above the surface. (The tall towers are at EBR II, CFA, GRID III, TAN, and LOFT, on the site.) In addition, there are four 50-ft towers on the site to make wind measurements at the top of the towers, and ten 50-ft towers scattered over the upper Snake River Plain to measure winds at the top of the towers. All on-site stations are telemetered to the CFA and two off-site locations. The stations are shown in figure 6. Variables measured at CFA or GRID III, the primary test areas, are the upper winds and temperatures, pressure, and vertical and horizontal gustiness. At the GRID III facility is an 80°-instrumented grid with 1°-spacings for diffusion studies -- with arcs at 25, 50, 100, 200, 400, 800, 1,600, and 3,200 m all supplied by commercial power -- and generator-powered arcs at 5 and 10 mi, respectively.

This facility has two M-33 radars (one located on a butte 1,800 ft above the terrain) and a wind tunnel for calibration work and experimentation.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. Additional services and equipment would have to be provided by the user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Field Research Office, Idaho Falls, RF3231
Environmental Science Services Administration
P.O. Box 2108
Idaho Falls, Idaho 83401

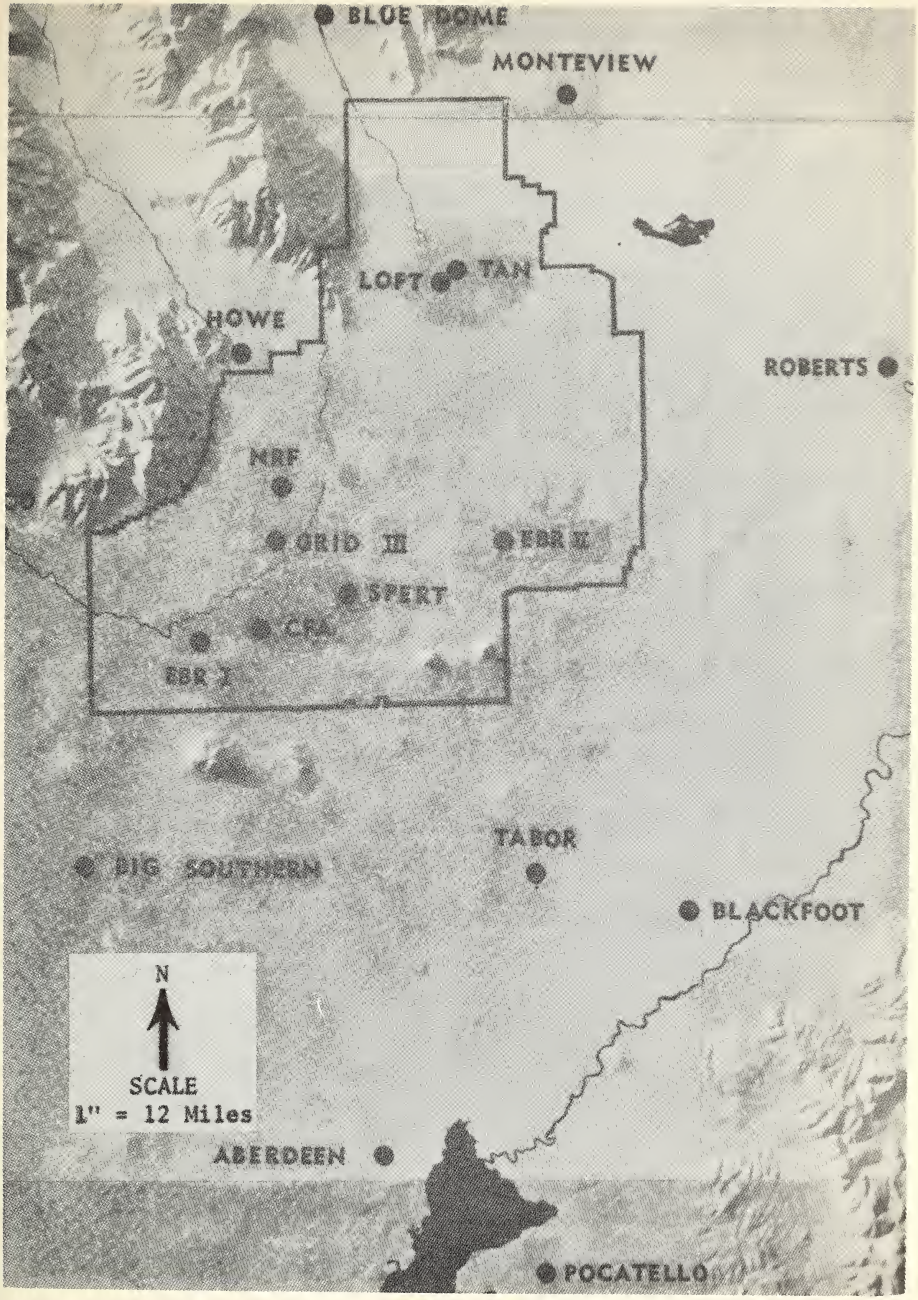

Figure 6. National Reactor Test Station Site

Name of Facility:

Experimental Meteorology Stack

Location:

Argonne National Laboratory, Argonne, Illinois

Agency (Operator)

U. S. Atomic Energy Commission (operated by the University of Chicago)

Facilities Available:

The height of the 100-ft Experimental Meteorology Stack is variable by 10-ft increments. Temperature is measured 6 in. from the top and 30 ft from the bottom. The air flow is measured and controllable. An oil fog is produced by an M-2 smoke generator. A furnace is used to heat the effluent to 140°F. above ambient. The flow rate can be varied from 1,500 to 4,500 cfm (4 to 13 m per second). In the surrounding area are stakes placed on arcs 40 and 646 ft from stacks so that cameras can be mounted for photographing the bottom and the side of the plume. The cameras are radio controlled.

Capacity for Handling Work for Other Federal Agencies:

It is very possible to have other users. Any additional equipment costs would be paid by the user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Meteorologist,
Radiological Physics Division
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439
Telephone: 312-739-7711, Ext. 3738

(or)

Director,
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439

Name of Facility:

Meteorology Tower

Location:

Argonne National Laboratory, Argonne, Ill.

Agency (Operator):

U. S. Atomic Energy Commission (operated by the University of Chicago)

Facilities Available:

A 120-ft Meteorology Tower with the 30-ft mast extension is available. Wind velocity is measured at the top of the mast (150 ft) and on four poles which encompass a 20-ft square area 200 ft E of the tower. The measurements on the poles are made at 75, 37.5, 18.75, and 9.38 ft above the surface. Dew point is measured at 1.17, 2.34, 4.69, 9.38, and 131 ft above the surface. Temperature differences are measured between the reference level (a thermocouple 150 ft W of the tower) at 5.5 ft and the levels of 18.75, 37.5, 75, and 140 ft above the ground on the tower.

Sunshine intensity, net radiation, rate of precipitation, soil temperature at seven depths, soil heat flux at five depths, and air pressure are routinely measured. The standard deviation of both the horizontal and vertical wind directions at one level is measured.

Capacity for Handling Work for Other Federal Agencies:

Users would be welcomed and would have to provide any additional equipment and manpower.

Punched cards and magnetic tapes containing these observations are available since the observations began.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Meteorologist,
Radiological Physics Division
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439
Telephone: 312-739-7711, Ext. 3738

(or)

Director,
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439

Name of Facility:

Meteorology Towing Tank

Location:

Argonne National Laboratory, Argonne, Ill.

Agency (Operator):

U. S. Atomic Energy Commission (operated by the University of Chicago)

Facilities Available:

A Meteorology Towing Tank -- 30 ft long, 1.5 ft deep, and 2 ft wide -- having a controlled, variable speed, moving carriage, is available. Flash lamp equipment and a robot camera installation for photographing turbulence, which has been induced in the tank, are a part of the facility.

Capacity for Handling Work for Other Federal Agencies:

It is very possible to have other users. Any additional equipment costs would be paid by the user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Meteorologist,
Radiological Physics Division
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439
Telephone: 312-739-7711, Ext. 3738

(or)

Director,
Argonne National Laboratory
9800 South Cass Ave.
Argonne, Ill. 60439

Name of Facility:

Mesoscale Network

Location:

Oak Ridge, Tenn.

Agency (Operator):

U. S. Atomic Energy Commission (operated by the ESSA's Air Resources Laboratories)

Facilities Available:

There are eight remote installations in the Oak Ridge area. Stations report automatically to a master control station in Oak Ridge. Wind velocity is measured at each station, while rainfall, dew point, temperature gradient, and the wind direction are measured at some sites. Data are recorded on microcards and punch cards.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. Any additional equipment or manpower would be furnished by the user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Air Resources Atmospheric Turbulence and
Diffusion Laboratory, RF326
Environmental Science Services Administration
P. O. Box E
Oak Ridge, Tenn. 37830

Name of Facility:

Wind Tunnel

Location:

Brookhaven National Laboratory, Upton, N. Y.

Agency (Operator):

U. S. Atomic Energy Commission (operated by Associated Universities, Inc.)

Facilities Available:

A small instrument test Wind Tunnel, 2-ft in diameter with a 6-ft test section, is used to calibrate wind instruments. The speed is controllable from 1 to 15 mps. (See fig. 7.)

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. Any additional equipment and the manpower must be provided by the user.

Current Service Charge:

None

Channels for Other Agencies to Use in Requesting Support by the Facility:

Meteorology Group Leader,
Brookhaven National Laboratory
Upton, N. Y. 11973

(or)

Director,
Brookhaven National Laboratory
Upton, N. Y. 11973

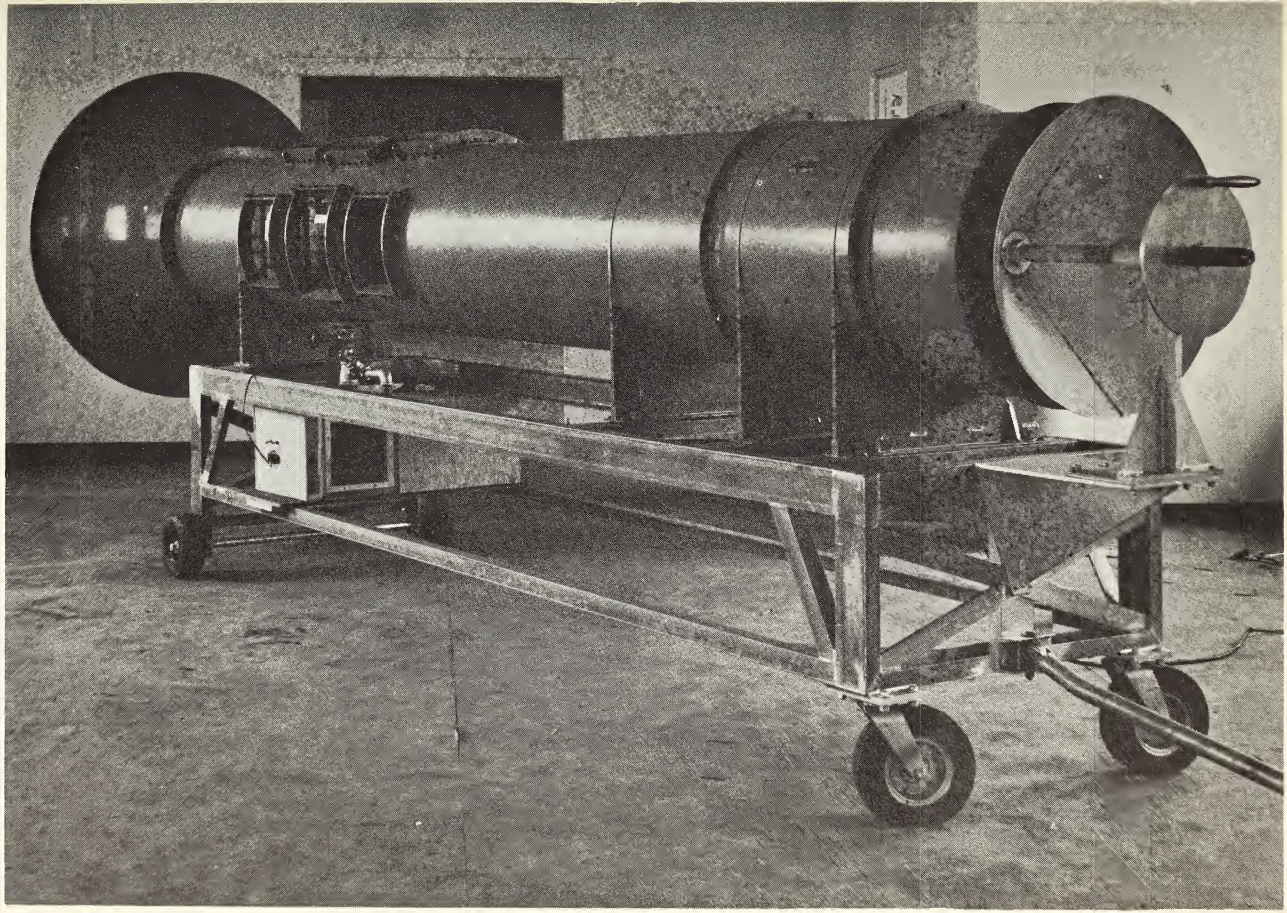

Figure 7. Wind Tunnel at Brookhaven

Name of Facility:

Brookhaven Meteorological Towers

Location:

Brookhaven National Laboratory, Upton, N. Y.

Agency (Operator):

U. S. Atomic Energy Commission (operated by Associated Universities, Inc.)

Facilities Available:

Facilities include the following:

a. A 420-ft tower with wind speed, direction, and temperature measured continuously at eight levels. (See fig. 8.)

b. A 160-ft tower in open terrain with wind speed and temperature measured intermittently at five levels. (See fig. 8.)

c. A 84-ft. tower in a forest with wind speed measured routinely on a recorder, and temperature measured intermittently at six levels.

d. A network of 15-m towers located in a forest section. (See fig. 9.)

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed but must provide their own manpower, any material, and/or any equipment not already available.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Meteorology Group Leader
Brookhaven National Laboratory
Upton, N. Y. 11973

(or)

Director,
Brookhaven National Laboratory
Upton, N. Y. 11973

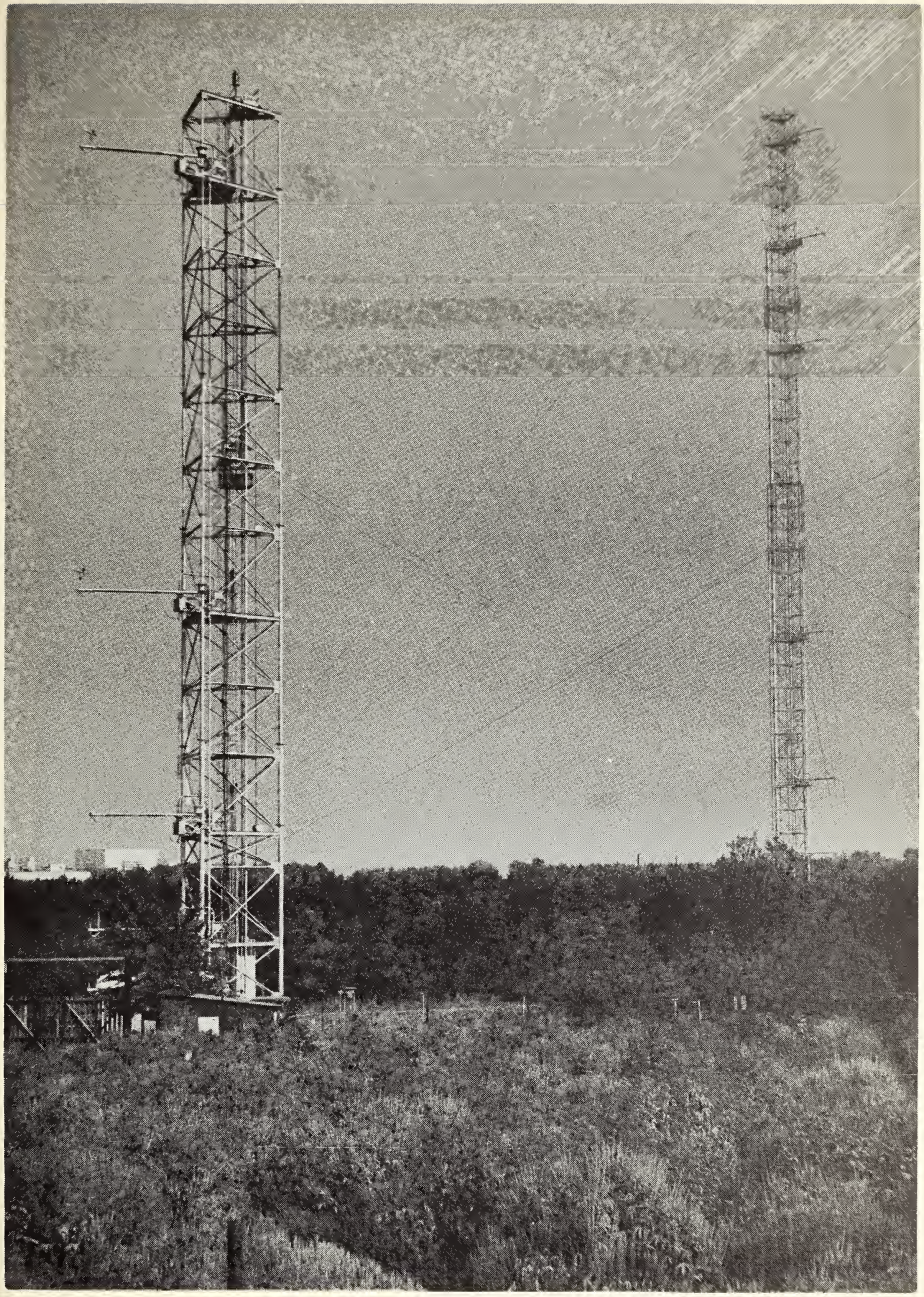

Figure 8. Brookhaven Meteorological Towers

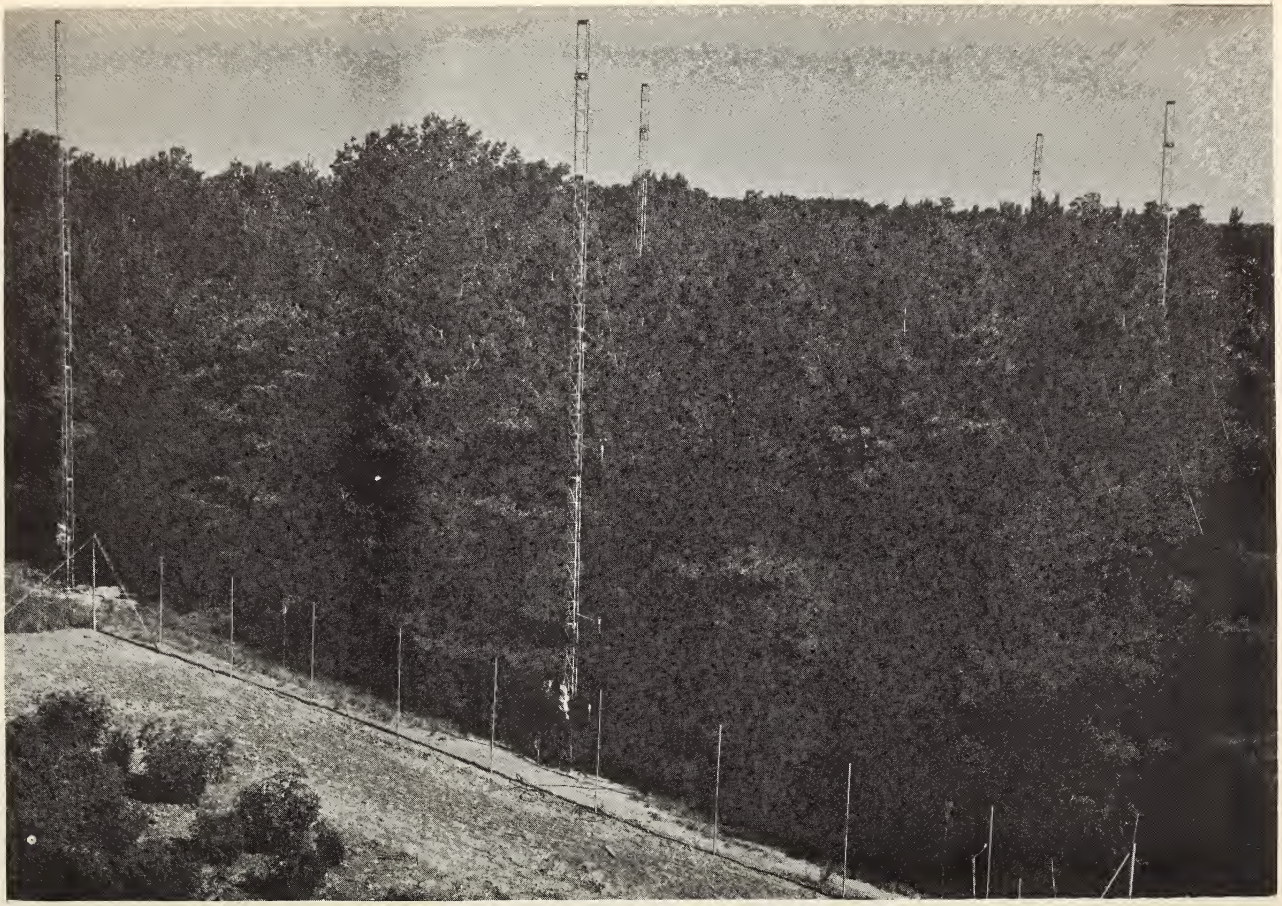

Figure 9. Network of 15 Meter Towers

Name of Facility:

Diffusion-Deposition Grids

Location:

Brookhaven National Laboratory, Upton, N.Y.

Agency (Operator)

U. S. Atomic Energy Commission (operated by Associated Universities, Inc.)

Facilities Available:

a. Open Field Grid: A 100-m square field has 140 sampling points, each with its own independent vacuum source. Deposition measurements are made on the surface at each sampling point. The release point is variable, usually at 1.5 m. Wind and temperature profiles are available from the surface to 3 m. Bivane measurements are also available. (See fig. 10.)

b. Forest Grid: A series of sampling points on masts and stakes are installed across the upwind face of a forested area, penetrating 200 m into the forest. Sampling points are at three heights in the forest and at one height above the canopy. Electric power is available at each sampling point. Wind and temperature profiles are produced from the surface to about 10 m. Bivane measurements are also available. (See fig. 9.)

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed, but must provide their own manpower, materials, and/or equipment not already available.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Meteorology Group Leader,
Brookhaven National Laboratory
Upton, N.Y. 11973

(or)

Director,
Brookhaven National Laboratory
Upton, N.Y. 11973

Figure 10. Open Field Grid

Name of Facility:

Environmental Chamber

Location:

Brookhaven National Laboratory, Upton, N.Y.

Agency (Operator):

U. S. Atomic Energy Commission (operated by Associated Universities, Inc.)

Facilities Available:

A 100-m^3 sealed Environmental Chamber suitable for atmospheric chemistry experiments and instrument calibration, is available. Temperature and humidity are controllable over a wide range; ultraviolet radiation is comparable to full daylight intensity; and rainfall and fog are simulated.

Capacity for Handling Work for Other Federal Agencies:

Users are welcomed. Any additional equipment and manpower must be provided by user.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Meteorology Group Leader,
Brookhaven National Laboratory
Upton, N.Y. 11973

(or)

Director,
Brookhaven National Laboratory
Upton, N.Y. 11973

DEPARTMENT OF COMMERCE

Name of Facility:

Atmospheric Physics and Chemistry Laboratory

Location:

Boulder, Colo.

Agency, (Operator):

ESSA's Research Laboratories

Facilities Available:

a. Rawin tracking unit.

b. Mobile hail research laboratory.

c. Mobile lidar facility.

d. Miscellaneous equipment required for highly specialized experiments in atmospheric physics and chemistry is available; primary emphasis is directed toward weather modification research and techniques.

Capacity for Handling Work for Other Federal Agencies:

Some capacity is available for study of related problems.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Atmospheric Physics and Chemistry Laboratory, R31
ESSA Research Laboratories
Boulder, Colo. 80302

Name of Facility:

Tropospheric Telecommunications Laboratory

Location:

Haswell, Colo.

Agency (Operator):

ESSA's Research Laboratories

Facilities Available:

A 500-ft tower with elevator to top is located at the center of a saucer-type depression of 6-mi radius. An underground laboratory (containing recording equipment), and living quarters with power, water, and sanitary facilities are available. This site is equipped with radio and telephone. There is no instrumentation on the tower at present. Elevation of the tower is 4,293 ft, msl.

Capacity for Handling Work for Other Federal Agencies:

Facility is available to other government agencies by arrangement.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Tropospheric Telecommunications Laboratory, R62
ESSA Research Laboratories
Boulder, Colo. 80302

Name of Facility:

Wave Propagation Laboratory

Location:

Gunbarrel Hill, Colo.

Agency (Operator):

ESSA's Research Laboratories

Facilities Available:

A 150-ft meteorological tower is instrumented for remote indication of horizontal and vertical wind, temperature, humidity, pressure, and refractive index. A 500-sq ft laboratory building nearby is equipped with water, power, and sanitary facilities. Elevation of the tower is 5,200 ft, msl.

Capacity for Handling Work for Other Federal Agencies:

Facility is available to other government agencies by arrangement.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Wave Propagation Laboratory
ESSA Research Laboratories
Boulder, Colo. 80302

Name of Facility:

Geophysical Fluid Dynamics Laboratory

Location:

Princeton, N.J.

Agency (Operator):

ESSA's Research Laboratories, Princeton University, P.O. Box 308, Princeton, N.J. 08540

Facilities Available:

Two UNIVAC-1108 computers and associated peripheral equipment are available.

Capacity for Handling Work for Other Federal Agencies:

Not applicable.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Not applicable.

Name of Facility:

National Severe Storms Laboratory

Location:

Norman, Okla.

Agency (Operator):

ESSA's Research Laboratories

Facilities Available:

Facilities are available for the study of meteorological problems associated with air traffic control such as squall lines, thunderstorms, tornadoes, turbulence, precipitation rates, hail, and for the development and use of meteorological radars (see fig. 11.), including doppler, as follows:

a. WSR-57 meteorological radar.

b. Pulse doppler radar.

c. MPS-4 radar.

d. TPQ-11 radar.

e. MPX-7 radar.

f. CPN-18 air traffic control radar.

g. WSR-67, 30-ft diameter antenna, experimental meteorological 10-cm radar.

h. A 1,600-ft instrumented television tower (to measure wind and temperature).

Capacity for Handling Work for Other Federal Agencies:

Some capacity is available for study of related problems.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
National Severe Storms Laboratory, RF37
1616 Halley Ave.
Norman, Okla. 73069

Figure 11. Radars at the National Severe Storms Laboratory

Name of Facility:

Severe Storm Mesonetwork

Location:

SW of Norman, Okla.

Agency (Operator):

ESSA's Research Laboratories

Facilities Available:

A 61-station surface observation system covers the area between Lawton and Oklahoma City. Each station is instrumented with a wind system on a 20-ft tower (with data recorded at a chart speed of 3 in./hr, a microbarograph, a hygrothermograph, and a recording rain gage -- all with 12-hr gears. This network also includes a 1,600-ft television tower instrumented to record wind and temperature at five levels.

Ft. Sill and Tinker rawin facilities are available nearby, and special observations have been obtained to support special data requirements of the National Severe Storms Laboratory (NSSL). The Dense Precipitation Network of the Agricultural Research Service is largely within the Mesonetwork. Observations from the ESSA Weather Bureau station at Oklahoma City are also available.

Capacity for Handling Work for Other Federal Agencies:

The Mesonetwork operated during the severe storm season by NSSL; data are available at cost of reproduction. Mesonetwork could be operated during the balance of the year on a reimbursable basis to meet needs of other organizations.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
National Severe Storms Laboratory, RF37
1616 Halley Ave.
Norman, Okla. 73069

Name of Facility:

Mauna Loa Observatory

Location:

On Mauna Loa, W of Hilo, Hawaii

Agency (Operator):

ESSA's Research Laboratories

Facilities Available

The Observatory is located on Mauna Loa (at 11,150 ft elevation, msl). Transportation from Hilo can be arranged; there are facilities for as many as 10 persons to remain overnight. Various measuring instruments and power are available in the Observatory which has a permanent staff of three.

For complete information on observational programs and equipment, see Monthly Weather Review, Vol. 91, No. 10-12, pp. 665-680.

Capacity for Handling Work for Other Federal Agencies:

The site is available for special observations by other groups.

Current Service Charge:

Charge is to be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Atmospheric Physics and Chemistry Laboratory, R31
Environmental Science Services Administration
Boulder, Colo. 80302

Name of Facility:

Data Processing and Analysis Division

Location:

Suitland, Md.

Agency (Operator):

ESSA's National Environmental Satellite Center

Facilities Available:

A meteorological satellite data processing system includes the following items:

a. Analog-to-digital system specifically designed for meteorological satellite data.

b. Point-to-point digital tape recorder.

c. Various specialized output devices.

d. CDC-924 computer (1 channel, 5 drives).

e. CDC-160A computer (1 channel, 2 drives).

This is an operational facility designed to process satellite data in real-time.

Capacity for Handling Work for Other Federal Agencies:

The facility is available for research purposes on a "time available" basis which varies with the operational satellites in orbit. Programming and operating staff are not available.

Current Service Charge:

Charge is hourly rate plus 10 percent.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
National Environmental Satellite Center, S
Environmental Science Services Administration
Washington, D. C. 20233

(or)

Director,
Office of Operations, S1
National Environmental Satellite Center
Environmental Science Services Administration
Washington, D. C. 20233

Name of Facility:

Photographic Section, Visual Products Support Branch

Location:

Suitland, Md.

Agency (Operator):

ESSA's National Environmental Satellite Center (NESC)

Facilities Available:

The laboratory equipment electronically dodges 35 mm negatives for maximum definition in reproduction; converts 35 mm images on roll film to varying sizes or unit record sheets; merges optically two 35 mm images into one composite 35 mm negative with paper prints of varying sizes or unit record; incorporates full capability for standard photo reproduction, including print production, photo copy up to 30 by 30 in., etc.; and processes 16/35/70 mm film negative or positive black-and-white, including sensitometry. The equipment includes an ultrasonic film cleaner.

Only NESC-skilled personnel are permitted to operate the delicate and unique equipment. All work, including labor, must be on a reimbursable basis.

This is an operational facility having a capability for research use.

Capacity for Handling Work for Other Federal Agencies:

Little or no time is available during regular 40-hr work week. Overtime capability exists for other agencies, but may be limited during periods when operational meteorological satellites are in orbit.

Current Service Charge:

No charge is established; each project requires negotiation.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Office of Operations, S1
National Environmental Satellite Center
Environmental Science Services Administration
Washington, D. C. 20233

Name of Facility:

Instrumental Design Laboratory and Machine Shop, Satellite Experiment Laboratory

Location:

Suitland, Md.

Agency (Operator):

ESSA's National Environmental Satellite Center (NESC)

Facilities Available:

This high precision, close tolerance instrument Machine Shop is capable of handling metal, wood, or plastic with laboratory instruments for electronic, optical, and environmental experiments. The technical staff includes physicists, electronic engineers, and instrument makers.

Only NESC-skilled personnel are permitted to operate the delicate tools. All work, including labor, must be on a reimbursable basis.

Capacity for Handling Work for Other Federal Agencies:

None is available during regular 40-hr work week. Overtime may be scheduled for other agencies, depending on NESC staff availability.

Current Service Charge:

No charge is established; each project requires negotiation.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Satellite Experiment Laboratory, S32
National Environmental Satellite Center
Environmental Science Services Administration
Washington, D. C. 20233

Name of Facility:

Foreign Branch, Climatology Division

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Environmental Data Service

Facilities Available:

Some translation capability of languages in which meteorological or climatological information usually appear is available. Searches of foreign area data also can be performed.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for short-term projects. Capability can be built, provided there is an assurance of program stability.

Current Service Charge:

Charge is cost plus overhead.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Foreign Branch, Climatology Division, D432
Environmental Data Service
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Environmental Data Service, Climatology Division

Location:

Silver Spring, Md.

Agency (Operator)

ESSA's Environmental Data Service

Facilities Available:

There is a technical capability to do research in climatology with local use of calculators and Mathatron. In addition, the RCA Spectra system and FOSDIC at the National Weather Records Center, Asheville, N. C. are available for use in climatological research.

Capacity for Handling Work for Other Federal Agencies:

Facility can accept reimbursable projects with wide scope in climatology. Stability of program (meaning crash programs are not desirable) is almost a necessity.

Current Service Charge:

Charge is cost plus overhead.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Environmental Data Service, D
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

National Weather Records Center

Location:

Asheville, N. C.

Agency (Operator):

ESSA's Environmental Data Service (in cooperation with Air Weather Service, U. S. Air Force)

Facilities Available:

An RCA Spectra 70/45 system with two computers, 131,000 characters of memory each, is available. Large array of peripheral input-output devices, including 24 tape drives, two card readers, one card punch, two high-speed printers, two disc storage units (random access memory), two mass storage units, and random memory on the order of 2 billion characters, are also available.

Capacity for Handling Work for Other Federal Agencies:

Total capacity is almost unlimited for data retrieval and processing. Reimbursable projects now range from a few dollars to over $800,000.

Current Service Charge:

Charge is cost plus overhead.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
National Weather Records Center, DF11
Environmental Science Services Administration
Asheville, N. C. 28801

Name of Facility:

National Meteorological Center

Location:

Suitland, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Facilities are available at all hours for work related to improvement in forecasting and analysis, automatic data processing, and numerical weather prediction. These facilities include:

a. One IBM-7094 II computer system.

b. Two IBM-360/30 computer systems.

c. One IBM-1401 computer system.

d. Part-time use of CDC-6600 computer.

e. IBM peripheral computer equipment.

f. Electronic data display equipment.

g. Manual charting, graphing, and analysis.

h. Chart reproduction facilities.

i. Selected meteorological data on magnetic tape, punch cards, and manuscript charts.

j. Operational meteorological products including analyses and predictions.

k. Both manual and automatic communications equipment.

Capacity for Handling Work for Other Federal Agencies:

Unused time on computers is available for small tasks involving only a few hours per month. Outside users are expected to furnish their own computer programs and any specialized supplies or materials.

Current Service Charge:

Charge is cost plus 6 percent for supporting services.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Chief,
Computer Division, AD6
Office of Administration and Technical Services
Environmental Science Services Administration
Washington, D. C. 20233

Name of Facility:

Optical Bench and Spectrographic Laboratory Equipment

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Optical Bench and Spectrographic Laboratory Equipment is available, as follows:

a. Gaertner optical bench, double rod, 305-cm long, equipped with all accessories, nodal slides, etc.

b. Gaertner solid lathe-bed bench, 160-cm long, equipped with microscope attachment and nodal slide.

c. Perkin-Elmer Model 21, infrared spectrophotometer; range of 2 to 16 microns (rocksalt prism).

d. Beckman Model DK-2A ultraviolet/infrared automatic ratio-recording spectrophotometer; linear short presentation; range of 185 millimicrons to 3.5 microns.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for small projects of short duration.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Pressure-Humidity-Temperature Environmental Test Chamber

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A Pressure-Humidity-Temperature Environmental Test Chamber with the following characteristics is available:

a. Chamber size: 3 by 3 ft door opening by 2 ft deep.

b. Viewing window: 29 by 25 in.

c. Pressure range: 32 by 1/2 in. of mercury, absolute.

d. Electrical feed-through terminals: 5-pair, 20-a 220-v.

e. Temperature range: +25° to -100°F.

f. Humidity range: 20 to 98 percent above 45°F.

g. Ports: two each, 2 in. diameter.

h. Time required: pressure and temperature extremes within 2 hr.

i. Recorder: wet- and dry-bulb temperatures.

j. Air circulation in chamber: approximately 9 kt.

Capacity for Handling Work for Other Federal Agencies:

No capacity at present.

Current Service Charge:

Charge is cost plus 10 percent.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Pressure-Temperature Chamber

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A Pressure-Temperature Chamber with the following characteristics is available:

a. Chamber size: 30-in. wide, 24-in. high and 24-in. deep.

b. Viewing window: 17 by 17 in.

c. Pressure range: 32 to 1/2 in. of mercury, absolute.

d. Temperature range: 130° to 0°F.

e. Time: pressure 30 to 1/2 in. in 30 minutes,
30 to 32 in. in 1 minute.

f. Temperature: 75° to 0°F. in 45 minutes,
75° to 130°F. in 15 minutes.

g. Ports: one, 2 in. diameter.

h. Electrical feed-through terminals: 5-pair, 20-a 220-v.

Capacity for Handling Work for Other Federal Agencies:

No capacity at present.

Current Service Charge:

Charge is cost plus 10 percent.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Ozone Generator

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

An Ozone Generator standard is available, with an ultraviolet lamp that has an adjustable shutter to irradiate oxygen which is mixed with dry air. The output of the ozone is a function of the shutter setting. Concentration is in parts per hundred million. The Ozone Generator is calibrated against an absolute coulometric titration to adjust for drift.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for small projects of short duration.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Instrument Shop

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Instrument Shop is equipped with the following machines:

1 Cincinnati 15 in. tray-top lathe
1 Sidney 14 in. lathe
3 Clausing 12 3/4 in. lathe
1 Monarch 10 in. lathe
3 Bridgeport ram & turret mill
1 Brown & Sharp #2 universal light mill
1 Dako 25-ton hand press
1 Dako #0 arbor press
1 Pexto 36 in. shear (18-gage)
1 DiArco #4 shear
1 DiArco #4 brake
1 Whitney Jensen brake #417
1 Electro-mechano drill press (bench)
1 Diehl drill press (bench)
1 Delta drill press (upright)
1 Edlund 2 F12 drill press
1 Delta sensitive-type tapping machine
1 Delta triple duty grinder (pedestal)
1 Baldor grinder (buffing)
1 Delta cut-off machine
1 Delta sander
1 Johnson saw
1 Do-all saw

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for medium projects of short duration.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W 44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Wind tunnel

Location:

Silver Spring, Md.

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A low-speed Wind Tunnel, 1/2 to 10 kt variable speed and a 4-ft by 4-ft cross-section exposure area, is available.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available for small projects of short duration on a preliminary basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Equipment Development Laboratory, W 44
Weather Bureau
Environmental Science Services Administration
Silver Spring, Md. 20910

Name of Facility:

Surface Weather Observing and Recording Facility

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A fully equipped Surface Weather Observing and Recording Facility is available, with data from field sensors, both standard and experimental, routed into a common panel from which signal lines are led to any of a number of recorders or monitoring devices. Also in this facility are a teletype-writer distribution system (internal) and an Automatic Meteorological Observing System (AMOS V). A limited amount of data processing can be accomplished in the programmable AMOS V digital data processor.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

Name of Facility:

Laboratories and Office Buildings

Location:

Sterling, Va. 22170 (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

There are 400 acres of grassland and scattered second-growth trees with four permanent-type and 19 temporary-type Laboratory and Office Buildings (approximately 14,450 sq ft); electrical power and water are available at most buildings; signal and telephone lines exist or can easily be extended to any on-site location.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

Name of Facility:

Meteorological Instrument Fields

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Two Meteorological Instrument Fields are available. One Field contains all standard ESSA Weather Bureau field sensors (including transmissometer, rotating-beam ceilometer, and solar radiation-measuring devices), plus a variety of nonstandard experimental and developmental items. The second Field contains a variety of evaporation pans, some of foreign design, along with various precipitation-measuring devices.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

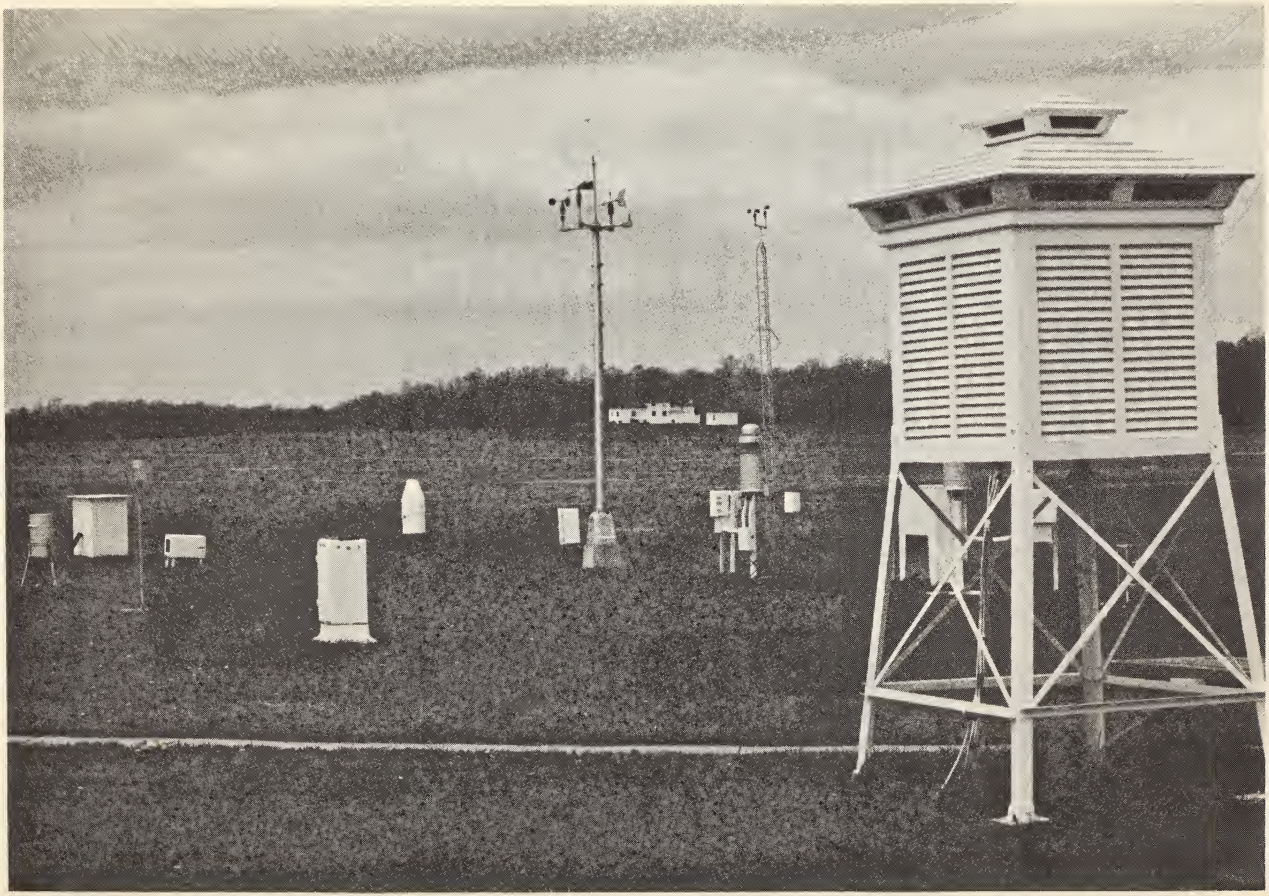

Figure 12. View of Meteorological Instrument Field

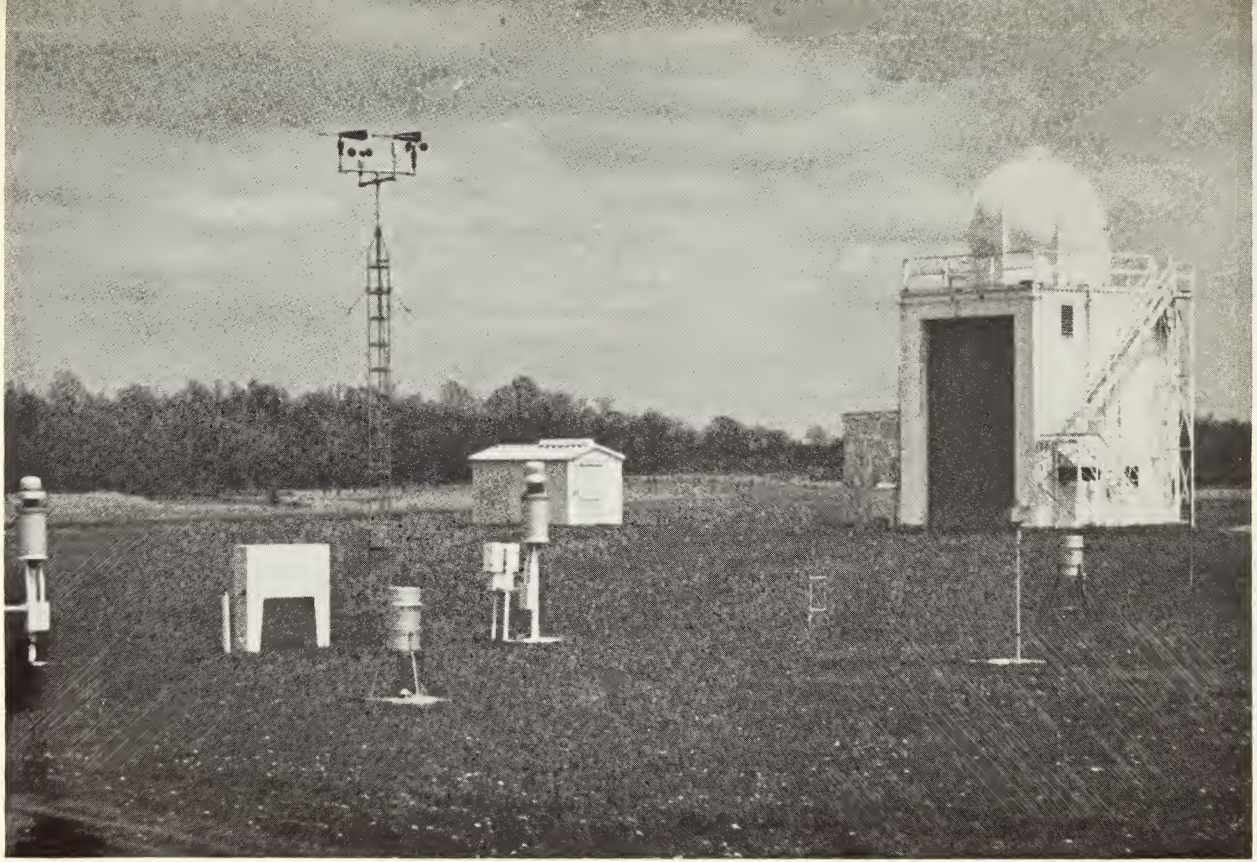

Figure 13. View of Meteorological Instrument Field with Hydrogen Generator Building and Balloon Inflation Shelter

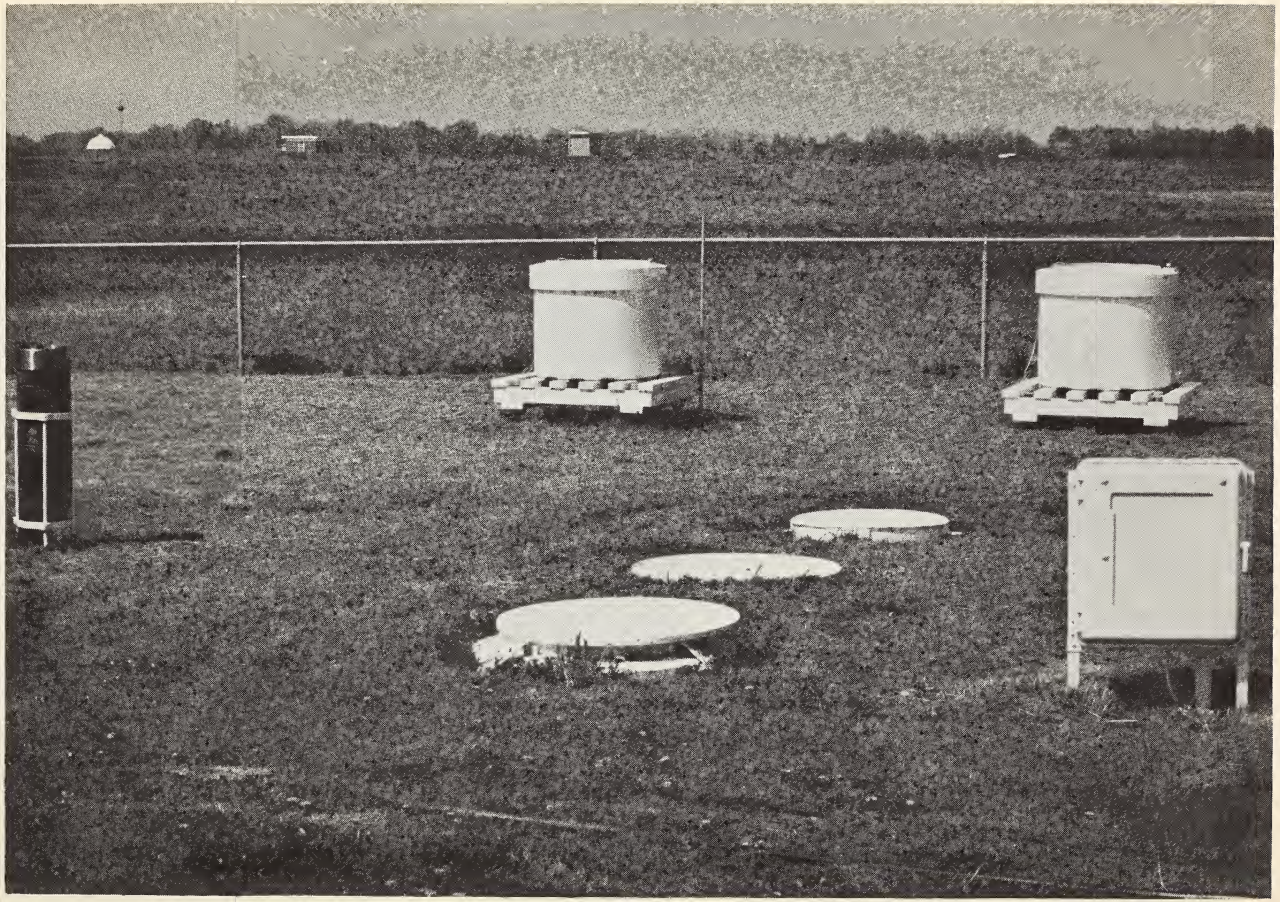

Figure 14. Instrument Field View Showing Evaporation Pans and Rain Gauges

Name of Facility:

Engineering Laboratory

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A fully equipped, modern Engineering Laboratory with all standard and some special-purpose test equipment is available. Included in this facility are:

a. A variety of small ovens and low temperature chambers.

b. A memo-oscilloscope with Polaroid photo capability.

c. A set of digital logic modules with chassis and self-contained power supply; modules may be quickly assembled and disassembled for use in digital simulation tasks.

d. A programmable general-purpose calculator system.

e. A station WWV-receiving equipment and secondary-timing reference.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

Name of Facility:

Machine and Carpentry Shops

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Small Machine and Carpentry Shops for facility maintenance and task support are available with a variety of mobile equipment, including:

a. International 606 diesel tractor.

b. International 340 diesel tractor.

c. Ford tractor.

d. Massey-Ferguson #10 tractor.

e. Caterpillar D-8 fulltracked/low speed diesel.

f. Caterpillar D-4 crawler/tractor.

g. Ditchwitch ditch digger (6-in. lot).

h. Case 430 backhoe (24-in. bucket).

i. Fork lift (3-ton capacity).

j. Continental spray paint unit, Model PE-95-H.

k. Waterwagon, 275-gallon.

l. Two Ford Boyertown vans.

m. Two Trucks, a 2.5-ton 6x6 Reo dump and 3/4-ton 4x4 Dodge.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242

Name of Facility:

Environmental Chamber

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

An 8- by 8- by 10-ft Environmental Chamber is available with the following capabilities:

a. Temperature, -80° to +150°F.

b. Humidity, 0 to 90 percent, + from 32° to 150°F.

c. Rain, 0 to 4.4 in./hr.

d. Wind, 0 to approximately 20 kt (non-laminar).

Temperature and humidity are programmable with selectable cycle times from one hour to one week. Rain and wind are analog adjustable throughout their entire ranges. Response times for temperature and humidity are less than one hour from ambient to extremes.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

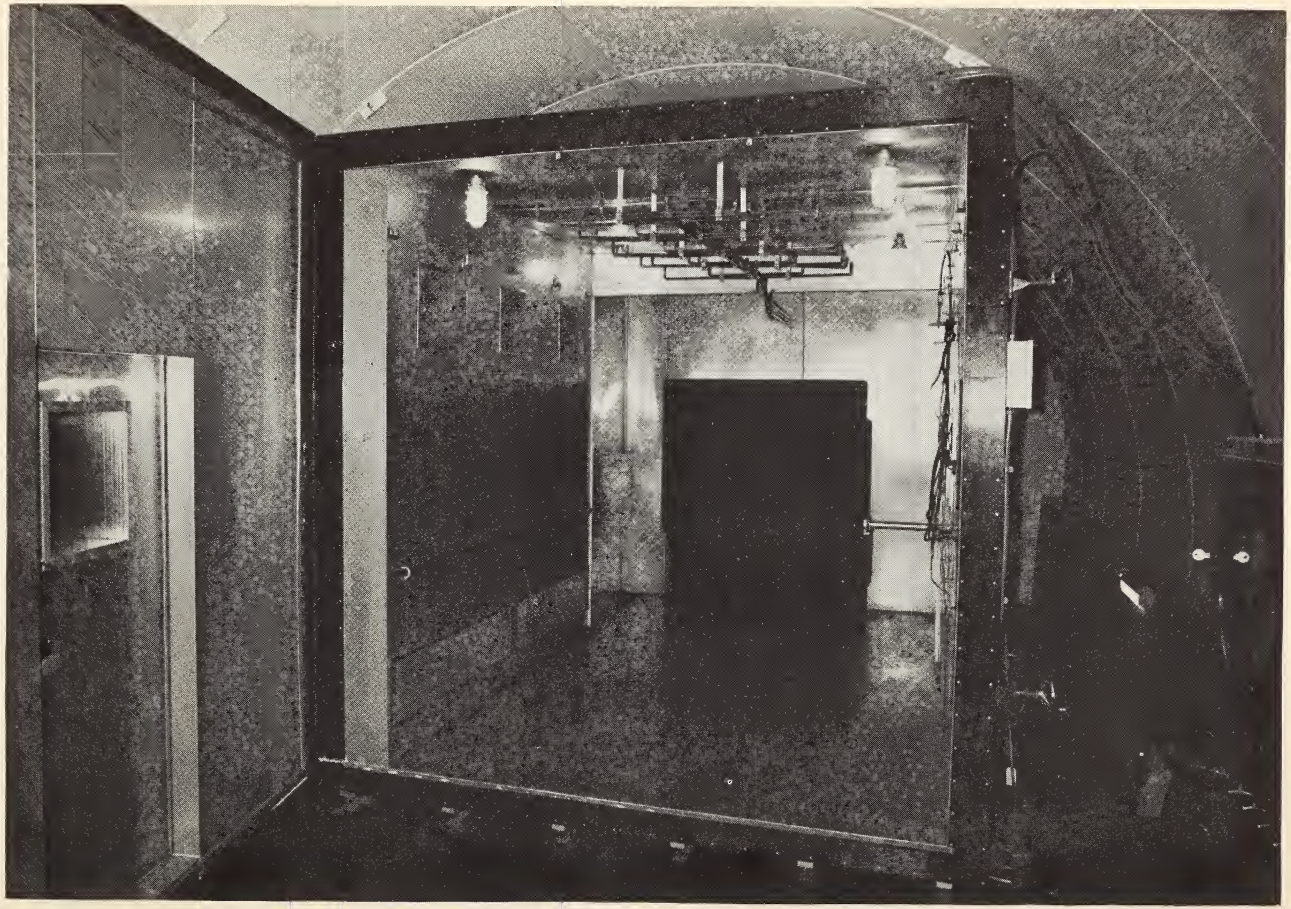

Figure 15. Environmental Chamber

Figure 16. Programmer – Control and Power Supply for Environmental Chamber

Name of Facility:

Ship Deck Motion Simulator

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

A 9- by 40-ft programmable Ship Deck Motion Simulator, capable of providing separate pitch, roll, and yaw components, is available. Rate and amplitude specifications are as follows:

a. Pitch, period of 5 to 60 seconds and amplitude of $\pm$ 20°.

b. Roll, period of 5 to 82 seconds and amplitude of $\pm$ 20°.

c. Yaw, period of 5 to 32 seconds and amplitude of $\pm$ 20.

Simulator capacity is approximately 500 lb.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

Figure 17. Ship Deck Motion Simulator

Name of Facility:

Reference Climatological Station (Prototype)

Location:

Sterling, Va. (adjacent to Dulles International Airport)

Agency (Operator):

ESSA's Weather Bureau

Facilities Available:

Prototype of Environmental Data Service's Reference Climatological Station is available, which includes:

a. Wind component accumulator.

b. Maximum and minimum temperature sensors.

c. An 8-in. standard rain gage.

Plans call for the addition of the following items in the near future:

a. Evaporation pan.

b. Solar radiation sensor.

c. Soil temperature sensor.

d. Humidity sensor.

Capacity for Handling Work for Other Federal Agencies:

Staffing is currently limited, but work can be arranged on a time-available basis.

Current Service Charge:

Charge is total actual cost.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Test and Evaluation Laboratory, W43
Weather Bureau
Environmental Science Services Administration
Sterling Research and Development Center
RD #1, Sterling, Va. 22170
Telephone: IDS 1235-8242 or FTS 202-963-1110, ask for code 1235-8242.

Figure 18. Prototype Reference Climatological Station

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Name of Facility:

Control Technology Research and Development Program Laboratories

Location:

Cincinnati, Ohio

Agency (Operator):

U. S. Public Health Service's National Center for Air Pollution Control (NCAPC)

Facilities Available:

The following facilities are included:

Columbia Parkway (Cincinnati, Ohio).
Chemical and physical laboratories are available for such work as analytical determinations, photochemistry, aerosol physics studies, and others relating to atmospheric contaiminants. This laboratory will be moved to Durham, N. C. in 1969.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available.

Current Service Charge:

No charge has been established.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Director for Control Technology
Research and Development,
NCAPC, U. S. Public Health Service
Ballston Center
Tower Building #2
801 N. Randolph St.
Arlington, Va. 22203

DEPARTMENT OF THE INTERIOR

Name of Facility:

Research Vessels

Location:

Great Lakes, Pacific and Atlantic Oceans, Gulf of Mexico, and Caribbean Sea

Agency (Operator):

Bureau of Commercial Fisheries (BCF)

Facilities Available:

The BCF operates 20 Research Vessels that are equipped with a wide variety of instrumentation for environmental measurements. (See figs. 19 and 20.) Ordinarily, one or two observers could be accommodated on board most cruises; or, in some instances, vessels could be made available to other agencies on a charter basis or for cooperative work without cost if such work does not interfere with the primary mission.

The two pages that follow give further details on three BCF ships and give an indication of what equipment is available.

Capacity for Handling Work for Other Federal Agencies:

Handling work of others can be arranged, depending on vessel schedules and nature of equipment.

Current Service Charge:

No change is established, but charter can be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Bureau of Commercial Fisheries
Interior Building
Washington, D. C. 20240

Figure 19. A Bureau of Commercial Fisheries Research Vessel (171 Feet)

Figure 20. A Bureau of Commercial Fisheries Research Vessel (215 Feet)

Name of Facility:

Research Vessel KAHO

Location:

Vessel base: Saugatuck, Mich.; operational area: Great Lakes

Agency (Operator):

Bureau of Commercial Fisheries

Facilities Available:

The 65-ft Research Vessel has the following equipment:

a. Water surface-air temperature continuous recorder.

b. Anemometer, pilot-house indicator in mi/hr.

c. Bathythermograph winch, standard Navy type.

d. Bathythermographs.

e. Miscellaneous hydraulic deck machinery for handling various kinds of commercial fishing gear.

Capacity for Handling Work for Other Federal Agencies:

Vessel has a limited amount of free time (about 30 operational days per year) that can be arranged to handle the work of other agencies; otherwise, certain work may be done concurrently with normal activities of the vessel which consist of about 130 days per year at sea.

Current Service Charge:

Charter can be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Exploratory Fishing Base
Bureau of Commercial Fisheries
5 Research Drive
Ann Arbor, Mich. 48103

Name of Facility:

Research Vessels TOWNSEND CROMWELL and CHARLES H. GILBERT

Location:

Honolulu, Hawaii

Agency (Operator):

Bureau of Commercial Fisheries

Facilities Available:

Two Research Vessels, the TOWNSEND CROMWELL (158 ft in length) and the CHARLES H. GILBERT (123 ft in length), operating primarily in the central Pacific, are available generally if work does not interfere with the primary mission. Both ships are equipped with Bendix Friez anemometers and Eppley recording pyrhelio meters; have 115-v AC-power, underwater observation chambers; and carry a variety of oceanographic-sampling equipment.

Capacity for Handling Work for Other Federal Agencies:

Meteorological test equipment can be mounted aboard, and one or two observers can be accommodated on a space-available basis.

Current Service Charge:

Charter can be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Area Director,
Bureau of Commercial Fisheries
P. O. Box 3830
Honolulu, Hawaii 96812

Name of Facility:

East Lagoon Sea-Water Laboratory

Location:

Galveston, Tex.

Agency (Operator)

Bureau of Commercial Fisheries

Facilities Available:

The following equipment collects meteorological data used in the East Lagoon Sea-Water Laboratory's various research programs:

a. Recording anemometer (force and direction)-Bendix Friez.

b. Recording thermometer - Bendix Friez.

c. Recording barometer - Short and Mason.

d. Recording pyrheliometer - Eppley pyrhelimeter and Bristol Recorder.

e. Recording precipitation meter - Bristol recorder and tipping bucket rain gage.

f. Recording hygrometer - Bendix Friez.

Information regarding techniques for collecting and measuring data is available.

Capacity for Handling Work for Other Federal Agencies:

Upon request, these facilities can be made available to other Government agencies wishing to test instruments and conduct experiments.

Current Service Charge:

Charge can be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director
Biological Laboratory
Bureau of Commercial Fisheries
Lab. A, Bldg. 302, Fort Crockett
Galveston, Tex. 77550

Name of Facility:

Oceanographic buoys

Location:

Northeastern Pacific Ocean

Agency (Operator):

Bureau of Commercial Fisheries

Facilities Available:

Ten free-floating transponding Oceanographic Buoys are used primarily for ocean current studies in the Gulf of Alaska and south of the Aleutian Islands, but are also instrumented to measure air and surface water temperature.

Instrumentation to provide pressure, temperature, and salinity measurements at depth and to give positioning by satellite navigation is in the developmental and testing stage.

Capacity for Handling Work for Other Federal Agencies:

Resultant data will be made available to anyone upon request.

Current Service Charge:

Charge can be negotiated.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
Biological Laboratory
Bureau of Commercial Fisheries
2725 Montlake Boulevard East
Seattle, Wash. 98102

Name of Facility:

Fire-Weather Stations

Location:

Twelve Western States

Agency (Operator):

Bureau of Land Management

Facilities Available:

Approximately 80 Fire-Weather Stations are located in the Western States, including Alaska. Each station ordinarily has instrumentation as follows:

a. Anemometer.

b. Psychrometer.

c. Rain gage.

d. Maximum-minimum thermometer.

e. Field-moisture detector.

f. Hygrothermograph.

Data are recorded on standard forms and reported to ESSA's Weather Bureau.

Capacity for Handling Work for Other Federal Agencies:

Facility could be utilized for testing instruments or for gathering additional data from particular localities.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Bureau of Land Management
Interior Building
Washington, D. C. 20240

Name of Facility:

Project Office

Location:

Phoenix, Ariz.

Agency (Operator):

Geological Survey

Facilities Available:

Two M-33 radar tracking units, obtained as surplus from the Department of Defense, have been adapted for use in studying precipitation patterns with respect to space and time in an arid region. Only that amount of precipitation heavy enough to cause local runoff is of interest.

Capacity for Handling Work for Other Federal Agencies:

Not applicable.

Current Service Charge:

Not applicable.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Project Chief,
Geological Survey
Federal Building, Room 5005
230 North First Ave.
Phoenix, Ariz. 85025

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Name of Facility:

Wallops Station

Location:

Wallops Island, Va.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

Wallops Station is a Test Range and, therefore, has facilities relative to meteorological research and test efforts. A description of the facilities may be found in the Wallops Station Handbook which is available through the Federal Coordinator for Meteorological Services and Supporting Research.

Capacity for Handling Work for Other Federal Agencies:

As a Test Range, Wallops Station can provide services to other agencies in accordance with established NASA range policies.

Current Service Charge:

Service charges are not normal to regular Wallops Station's operations.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
NASA Wallops Station
Wallops Island, Va. 23337

Name of Facility:

Multiple Environmental Facilities

Location:

Goddard Space Flight Center, Greenbelt, Md.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Goddard Space Flight Center, operating under the authority of the NASA Office of Space Science and Applications has a large number of test facilities of many kinds, including wind tunnels, vacuum chambers, space environment simulators, and a variety of specialized research facilities. These facilities are used for general research in space technology and, where necessary and appropriate, in developmental testing on specific space projects for NASA and other Government agencies.

The following documents describe the bulk of these facilities in varying amounts of detail:

a. NASA Field Installations (Brochure dated 1962.

b. Tables of NASA Vacuum Chambers.

c. National Wind Tunnel Summary-ASTIA Doc. AD 262-938.

d. Index of Environmental Test Equipment in Government Establishments, Second Edition to Subject Index.

e. NASA Field Installations (Brochure dated 1963).

f. Technical Facilities Catalog, NASA, NHB 8800.5, Mar. 1967.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to space research and to developmental support of approved space projects of national importance. Occasional exceptions may be made where unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Administrator for Space Science
and Applications
NASA Headquarters
Washington, D. C. 20546
(or)
Director,
NASA Goddard Space Flight Center
Greenbelt, Md. 20771

Name of Facility:

Multiple Environmental Facilities

Location:

Ames Research Center, Moffett Field, Calif.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Ames Research Center, operating under the authority of the NASA Office of Advanced Research and Technology, has a large number of test facilities of many kinds, including wind tunnels covering a large range of size and speed; vacuum chambers, ranging in size from a few to many thousands of cubic feet, with and without solar simulation and cold walls; and a variety of specialized research facilities such as dynamic flight simulators, high-intensity noise generators, and many others. These facilities are used for general research in aeronautical and space technology and, where necessary and appropriate, in developmental testing on specific aeronautical and space projects for NASA and other Government agencies.

The following documents describe the bulk of these facilities in varying amounts of detail:

a. NASA Field Installations (Brochure dated 1962).

b. Tables of NASA Vacuum Chambers.

c. National Wind Tunnel Summary-ASTIA Doc. AD 262-938

d. Index of Environmental Test Equipment in Government Establishments Second Edition to Subject Index.

e. NASA Field Installations (Brochure dated 1963).

f. Technical Facilities Catalog, NASA, NHB 8800.5, March 1967.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to aeronautical and space research and to developmental support of approved aeronautical and space projects of national importance. Occasional exceptions may be made where a unique test capability exists and the demand is justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Administrator for Advanced Research and Technology
NASA Headquarters
Washington, D. C. 20546

(or)

Director,
NASA Ames Research Center
Moffett Field, Calif. 94035

Name of Facility:

Multiple Environmental Facilities

Location:

Jet Propulsion Laboratory, Pasadena, Calif.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Jet Propulsion Laboratory, operating under the authority of the NASA Office of Space Science and Applications, has a large number of test facilities of many kinds, including wind tunnels, vacuum chambers space environment simulators, and a variety of specialized research facilities. These facilities are used for general research in space technology and, where necessary and appropriate, in developmental testing on specific space projects for NASA and other Government agencies.

The following documents describe the bulk of these facilities in varying amounts of detail:

a. NASA Field Installations (Brochure dated 1962).

b. Tables of NASA Vacuum Chambers.

c. National Wind Tunnel Summary-ASTIA Doc. AD 262-938.

d. Index of Environmental Test Equipment in Government Establishments, Second Edition to Subject Index.

e. NASA Field Installations (Brochure dated 1963).

f. Technical Facilities Catalog, NASA, NHB 8800.5, March 1967.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to space research and to developmental support of approved space projects of national importance. Occasional exceptions may be made where unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Administrator for Space Science and Applications
NASA Headquarters
Washington, D. C. 20546

(or)

Director,
NASA Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, Calif. 91103

Name of Facility:

Meteorological Tower, 150-m

Location:

Kennedy Space Center, Fla.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

1. Wind Measuring System.

   a. NASA's 150-m Meteorological Tower is instrumented on both the NE and SW sides at 18-, 30-, 60-, 90-, 120-, and 150-m levels. Data recorded on paper strip charts or magnetic tape, or both, are continuously recorded from either side of the tower automatically, depending on wind direction.
   b. An 18-m tower, located 18 m NE of the 150-m tower, is instrumented on the NE side at 3-, 10-, and 18-m levels.
   c. A 20-m pole, located 18 m SW of the 150-m tower, is instrumented at the top only.

Data from the two smaller towers may be recorded on paper strip charts, or magnetic tape, or both.

2. Temperature Measuring System.

   a. A reference temperature at the 3-m level on the 18-m tower is recorded directly.
   b. Temperature differences, either plus or minus, relative to the reference temperature are recorded at the 18-m level on the 18-m tower, and at the 30-, 60-, 120-, and 150-m levels on the 150-m tower.

3. Humidity, Atmospheric Pressure, and Radiation Measuring System.

   a. Relative humidity and temperature are recorded at the 115-m level on the 150-m tower, and at ground level E of the tower.
   b. Dew-point measurements are obtained at the 3-m level on the 18-m tower, and at the 60- and 120-m levels on the 150-m tower.
   c. Atmospheric pressure is recorded at the ground level.
   d. Total radiation is measured SE of the 150-m tower.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to space research and to developmental support of approved space projects of national importance. Occasional exceptions may be made where unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
NASA Marshall Space Flight Center
Marshall Space Flight Center, Ala. 35812
(ATTN: Code R-AERO-Y)

(or)

Director,
NASA Kennedy Space Center, Fla. 32899 (ATTN: Code IN)

Name of Facility:

CV-990 Airborne Laboratory

Location:

Ames Research Center, Moffett Field, Calif.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Convair 990 (CV-990) is a four engine jet transport airplane, modified to be a flying laboratory, with the capability to carry experiments and personnel to perform airborne measurements for meteorology, remote earth sensing, astronomy, aurora studies, and other similar research.

The following documents describe the CV-990 and the procedure to participate on the CV-990:

a. Opportunities for Participation in Space Flight Investigations, Office of Space Science and Applications, NASA, Washington, D. C., NHB 8030.1A, pages II-15 to II-18, Apr. 1967.

b. NASA CV-990 Airborne Laboratory Experimenters' Handbook, NASA Ames Research Center, Moffett Field, Calif.

Capacity for Handling Work for Other Federal Agencies:

The aircraft is available to other Federal agencies as scheduling permits. The requesting agency is responsible for the design, stress analysis, construction, shipping, and installation of experimental equipment aboard the aircraft, while NASA Ames Research Center provides a nominal amount of engineering advice and a nominal amount of installation manpower (mechanical and electrical technicians). Flight operations are handled by NASA Ames Research Center personnel and contractors.

Proposals are reviewed by cognizant NASA Headquarters Program Office and by the 990 Steering Committee.

Current Service Charge:

No charge is made if the program is processed through specified channels with sufficient lead-time so as to be included in the yearly budget; otherwise, a share (possibly all) of flight operations costs ($2,300 to $3,000 per flight hour) may be requested.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Technical contracts are as follows:

Mr. Maurice Dubin
NASA Headquarters, Code SG
Washington, D. C. 20546
(or)
Dr. Michel Bader
Airborne Science Office
NASA Ames Research Center
Moffett Field, Calif. 94035

Name of Facility:

Multiple Environmental Facilities

Location:

Langley Research Center, Langley Station, Hampton, Va.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Langley Research Center, operating under the authority of the NASA Office of Advanced Research and Technology has a large number of test facilities of many kinds, including wind tunnels covering a large range of size and speed; vacuum chambers, ranging in size from a few to many thousands of cubic feet, with and without solar simulation and cold walls; and a variety of specialized research facilities such as dynamic flight simulators, high-intensity noise generators, and many others. These facilities are used for general research in aeronautical and space technology and, where necessary or appropriate, in developmental testing on specific aeronautical and space projects for NASA and other Government agencies.

The following documents describe the bulk of these facilities in varying amount of detail:

a. NASA Field Installations (Brochure dated 1962).
b. Tables of NASA VAcuum Chambers.
c. National Wind Tunnel Summary-ASTIA Doc. AD 262-938.
d. Index of Environmental Test Equipment in Government Establishments, Second Edition to Subject Index.
e. NASA Field Installations (Brochure dated 1963).
f. Technical Facilities Catalog, NASA, NHB 8800.5, Mar. 1967.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to aeronautical and space research and to developmental support of approved aeronautical and space projects of national importance. Occasional exceptions may be made where a unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Administrator for Advanced Research and Technology
NASA Headquarters
Washington, D. C. 20546

(or)

Director
NASA Langley Research Center
Langley Station
Hampton, Va. 23365

Name of Facility:

Multiple Environmental Facilities

Location:

Lewis Research Center, Cleveland, Ohio

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Lewis Research Center, operating under the authority of the NASA Office of Advanced Research and Technology, has a large number of test facilities of many kinds, including wind tunnels covering a large range of size and speed; vacuum chambers, ranging in size from a few to many thousands of cubic feet, with and without solar simulation and cold walls; and a variety of specialized research facilities such as dynamic flight simulators, high-intensity noise generators, and many others. These facilities are used for general research in aeronautical and space technology and, where necessary and appropriate, in developmental testing on specific aeronautical and space projects for NASA and other Government agencies.

The following documents describe the bulk of these facilities in varying amount of detail:

a. NASA Field Installations (Brochure dated 1962).
b. Tables of NASA Vacuum Chambers.
c. National Wind Tunnel Summary-ASTIA Doc. AD 262-938.
d. Index of Environmental Test Equipment in Government Establishments, Second Edition to Subject Index.
e. NASA Field Installations (Brochure dated 1963).
f. Technical Facilities Catalog, NASA NHB 8800.5, Mar. 1967.

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to aeronautical and space research and to developmental support of approved aeronautical and space projects of national importance. Occasional exceptions may be made where a unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Associate Administrator for Advanced Research and Technology
NASA Headquarters
Washington, D. C. 20546

(or)

Director,
NASA Lewis Research Center
21000 Brookpark Road
Cleveland, Ohio 44135

Name of Facility:

Atmospheric Research Facility, Aero-Astrodynamics Laboratory

Location:

Marshall Space Flight Center, Ala.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Atmospheric Research Facility is a unit of the Aero-Astrodynamics Laboratory, which has the mission of providing the Marshall Space Flight Center with all environmental and meteorological support. The following is a listing of facilities available at the Atmospheric Research Facility:

a. GMD-2A system.

b. GMD-2 system with automatic data processor.

c. GE-225 computer on-site.

d. Automatic Picture Transmission (APT) system.

e. CPS-9 weather radar.

f. Ionosphere-sounding station.

g. Dynamic wind facility (for anemometer comparison studies).

h. Full-sky coverage camera.

i. Lightning detection system (potential gradient meter).

j. Automatic, remote weather stations (wind speed, wind direction, pressure humidity, temperature, and rainfall).

k. Climatological measuring and recording equipment (hygrothermographs, microbarograph, anemometers, raingages, and pyrheliometers).

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to space research and to developmental support of approved space projects of national importance. Occasional exceptions may be made where unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
NASA Marshall Space Flight Center
Marshall Space Flight Center, Ala. 35812

Name of Facility:

Meteorological Laboratory, Mississippi Test Facility

Location:

Bay St. Louis, Miss.

Agency (Operator):

National Aeronautics and Space Administration (NASA)

Facilities Available:

The Meteorological Laboratory has the mission of providing the Mississippi Test Facility with all environmental and meteorological support. The following is a listing of facilities available at the Meteorological Laboratory:

a. GMD-2A system with automatic data processor.

b. GE-225 computer on-site.

c. CPS-9 weather radar.

d. Lightning detection system (potential gradient meter).

e. Automatic, remote weather stations (wind speed, wind direction, pressure humidity, temperature, and rainfall).

f. Climatological measuring and recording equipment (hygrothermographs, microbarograph, anemometers, raingages, and pyrheliometers).

Capacity for Handling Work for Other Federal Agencies:

Capacity is limited in general to space research and to developmental support of approved space projects of national importance. Occasional exceptions may be made where unique test capability exists, when demands on NASA resources are modest, and when in NASA's judgment these demands are justified.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
NASA Marshall Space Flight Center
Marshall Space Flight Center, Ala. 35812

(or)

Manager,
NASA Mississippi Test Facility
Bay St. Louis, Miss. 39520

NATIONAL SCIENCE FOUNDATION

Name of Facility:

Research Aviation Facility, National Center for Atmospheric Research (NCAR)

Location:

Boulder, Colo.

Agency (Operator):

National Science Foundation (operated by the National Center for Atmospheric Research)

Facilities Available:

The facility currently operates the following three aircraft:

a. Beechcraft Queen Air A80.

b. Buffalo de Havilland DHC5.

c. North American Rockwell Sabreliner, Model 265-60.

These aircraft are completely equipped with standard navigational and meteorological instrumentation. In addition, several items of nonstandard instrumentation are available.

Capacity for Handling Work for Other Federal Agencies:

Specific requests for use of the facility are screened by an Advisory Panel on the basis of scientific merit, appropriateness and availability of the facility. Recommendations for use are forwarded by the Advisory Panel Chairman to the Manager of the Facility. At present, the majority of requests emanate from the university community and NCAR staff.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Manager,
Research Aviation Facility
National Center for Atmospheric Research
Boulder, Colo. 80302

Name of Facility:

Scientific Balloon Flight Station, National Center for Atmospheric Research (NCAR)

Location:

Palestine, Tex.

Agency (Operator):

National Science Foundation (operated by the National Center for Atmospheric Research)

Facilities Available:

This Flight Station operates and maintains complete facilities for launching, tracking, and recovery of large scientific balloon experiments. A description of the facilities is available from the Superintendent, NCAR Scientific Balloon Flight Station, Palestine, Tex.

Capacity for Handling Work for Other Federal Agencies:

Specific requests for use of the facility are screened by an Advisory Panel on the basis of scientific merit, appropriateness, and availability of the facility. Recommendations for use are forwarded by the Advisory Panel Chairman to the Manager of the Facility. At present, the majority of requests emanate from the university community and NCAR staff.

Current Service Charge:

No charge. Users are expected to provide their own balloons, helium, and scientific payload.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Superintendent,
NCAR Scientific Balloon Flight Station
Palestine, Tex. 75801

(or)

Manager,
Scientific Balloon Facility
National Center for Atmospheric Research
Boulder, Colo. 80302

Name of Facility:

Computing Facility, National Center for Atmospheric Research (NCAR)

Location:

Boulder, Colo.

Agency (Operator):

National Science Foundation (operated by the National Center for Atmospheric Research)

Facilities Available:

This Computing Facility operates a CDC-6600 system, and has a complete inventory of peripheral equipment.

Capacity for Handling Work for Other Federal Agencies:

Specific requests for use of the facility are screened by an Advisory Panel on the basis of scientific merit, appropriateness, and availability of the facility. Recommendations for use are forwarded by the Advisory Panel Chairman to the Head of the Facility. At present, the majority of requests emanate from the university community and NCAR staff.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Head,
Computing Facility
National Center for Atmospheric Research
Boulder, Colo. 80302

Name of Facility:

Field Observing Facility, National Center for Atmospheric Research (NCAR)

Location:

Boulder, Colo.

Agency (Operator):

National Science Foundation (operated by the National Center for Atmospheric Research)

Facilities Available:

This Field Observing Facility is organized to handle the planning and logistic management of field experiments. In addition to this management and planning capability, the Facility maintains a limited inventory of ground-based meteorological equipment.

Capacity for Handling Work for Other Federal Agencies:

Specific requests for use of the facility are screened by an Advisory Panel on the basis of scientific merit, appropriateness, and availability of the facility. Recommendations for use are forwarded by the Advisory Panel Chairman to the Manager of the Facility. At present, the majority of requests emanate from the university community and NCAR staff.

Current Service Charge:

None.

Channels for Other Agencies to Use in Requesting Support by the Facility:

Manager,
Field Observing Facility
National Center for Atmospheric Research
Boulder, Colo. 80302

DEPARTMENT OF THE NAVY

Name of Facility:

Engineering Development Laboratory, U. S. Naval Air Development Center

Location:

Johnsville, Pa.

Agency (Operator):

Chief of Naval Materiel

Facilities Available:

General laboratory facilities are used for research, development, test and evaluation of aircraft-borne meteorological instrumentation, for example, aerographs and radiosondes. Special equipment utilized in this effort includes the following:

a. Clean room (Federal specification, Class 100,000).

b. Environmental chamber (sea level to 100,000 ft).

c. Secondary pressure standard.

d. IBM-650 computer.

e. Bendix G-15D computer.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commanding Officer
U. S. Naval Air Development Center
Engineering Development Laboratory (Code EDE-6)
Johnsville, Pa. 18974

Name of Facility:

U. S. Fleet Numerical Weather Central

Location:

Monterey, Calif.

Agency (Operator):

Naval Weather Service Command

Facilities Available:

The facility is equipped as follows:

a. CDC-6500 computer and peripheral equipment

b. CDC-1604A computer and peripheral equipment

c. CDC-3200 computer and peripheral equipment

d. Line drawer, printer, etc.

e. Library, research, and conference facilities

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours, plus computer time (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commanding Officer,
U. S. Fleet Numerical Weather Central
U. S. Naval Postgraduate School
Monterey, Calif. 93940

Name of Facility:

U. S. Navy Weather Research Facility

Location:

Norfolk, Va.

Agency (Operator):

Naval Air Systems Command

Facilities Available:

The facility is equipped as follows:

a. Raytheon-440 computer for use in research and development.

b. Laboratory facilities for the evaluation of weather forecasting techniques.

c. Library, research, and conference facilities.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is cost plus 10 percent for administrative overhead (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Officer in Charge,
U. S. Navy Weather Research Facility
Building R-48, U. S. Naval Air Station
Norfolk, Va. 23611

Name of Facility:

Project FAMOS (Fleet Applications of Meteorological Observations from Satellites)

Location:

Suitland, Md.

Agency (Operator):

Naval Air Systems Command

Facilities Available:

General research and conference facilities are available for the evaulation of weather forecasting techniques utilizing meteorological satellite information.

Project FAMOS is adjacent to the U. S. Navy Photographic Interpretation Center. This Center can aid Project FAMOS with the rectification of cloud photographs, especially Automatic Picture Transmission (APT) information and the techniques developed from this type of information.

Library facilities are available.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is cost plus 10 percent for administrative overhead (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Officer in Charge,
Project FAMOS
U. S. Fleet Weather Central
FOB 4
Suitland, Md. 20233

Name of Facility:

U. S. Naval Ordnance Laboratory

Location:

White Oak, Md.

Agency (Operator):

Chief of Naval Materiel

Facilities Available:

General laboratory facilities are used for research, development, test and evaluation of meteorological rocket instrumentation such as HASP (Height Altitude Sounding Projectile) and for measuring temperature, pressure, wind speed, and direction. Special equipment utilized in this effort includes the following:

a. Acceleration, vibration, and shock test equipment.

b. Vacuum and temperature test equipment-cold chamber.

c. Whirling arm.

d. Wind tunnel.

e. IBM-7090 computer.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commander,
U. S. Naval Ordnance Laboratory,(Code XWF)
Silver Spring, Md. 20910

Name of Facility:

U. S. Naval Avionics Facility, Applied Research Division

Location:

Indianapolis, Ind.

Agency (Operator):

Naval Air Systems Command

Facilities Available:

General laboratory facilities are used for conducting research, development, test, and evaluation of automatic weather stations, both land and buoy types. Other items available include airborne refractive-index-measuring equipment, aerographs, and other specialized airborne meteorological-measuring equipment.

A cold chamber is available for testing polar-type automatic weather stations.

Library and conference facilities are available.

Field testing and evaluation of automatic weather stations are conducted by the U. S. Navy Operational Test and Evaluation Force, Pacific.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commanding Officer,
U. S. Naval Avionics Facility (Code R-2)
21st and Arlington Ave.
Indianapolis, Ind. 46218

Name of Facility:

Earth and Planetary Sciences Division, U. S. Naval Weapons Center

Location:

China Lake, Calif.

Agency (Operator):

Chief of Naval Materiel

Facilities Available:

The facility is equipped as follows:

a. General laboratory facilities.

b. Two AN/GMD-1B rawin sets.

c. Launching facility for the Cricketsonde.

d. Mobile radar van with modified AN/MSG-3A radar set (S-and X-bands).

e. Facilities for the development and test of specialized aircraft meteorological equipment.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commander,
U. S. Naval Weapons Center (Code 502)
China Lake, Calif. 93555

Name of Facility:

Environmental Sciences Division, Range Development Department, Pacific Missile Range

Location:

Point Mugu, Calif.

Agency (Operator):

Naval Air Systems Command

Facilities Available:

General laboratory facilities are used for research, development, test and evaluation of range instrumentation, including meteorological instrumentation. Special equipment utilized in this effort includes the following:

a. Three meteorological towers.

b. Ionospheric-sounding system.

c. Two AN/GMD-2 rawin sets.

d. Ozone ground station.

e. Atmospheric lidar system.

f. Denfro rocket launching rail, rocketsonde, etc.

Capacity for Handling Work for Other Federal Agencies:

There is limited capability, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Commander,
Pacific Missile Range
Range Development Department (Code 3150)
Point Mugu, Calif. 93041

Name of Facility:

Atmospheric Physics Branch, U. S. Naval Research Laboratory

Location:

Washington, D. C.

Agency (Operator):

Office of Naval Research

Facilities Available:

The facility is equipped as follows:

a. General laboratory facilities.

b. Cold chamber.

c. Whirling arm.

d. Two AN/GMD-1A rawin sets.

e. Consultation rooms, etc.

Capacity for Handling Work for Other Federal Agencies:

There is limited capacity, based on the availability of personnel.

Current Service Charge:

Charge is based on direct-cost man-hours (negotiated).

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
U. S. Naval Research Laboratory (Code 7110)
Washington, D. C. 20390

DEPARTMENT OF TRANSPORTATION

Name of Facility:

Upper Air Facility

Location:

Atlantic City, N. J.

Agency (Operator):

Federal Aviation Administration

Facilities Available:

A WBRT-60 radiotheodolite with inflation building is available for limited use.

Capacity for Handling Work for Other Federal Agencies:

Limited capacity is available.

Current Service Charge:

Charge is made in accordance with FAA Office of the Budget, Order BU 2500.8A

Channels for Other Agencies to Use in Requesting Support by the Facility:

Director,
National Aviation Facilities Experimental Center, NA-1
Atlantic City, N. J. 08405

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